CONSTRUCTION NEWS

Supplement to ENGINEERING NEWS. New York, January 11, 1906.

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CONSTRUCTION NEWS.

PLANS AND SPECIFICATIONS ON FILE.

The following Plans (P.), Specifications (S.), and Bidding Sheets (B. S.) may be seen at the office of The Engineering News Publishing Co., 220 Broadway, New York:

Bids close. Work. Place. On file. See issue.
Jan.
11—Water mains..Bismarck, N. Dak.P. & S........12-21
•12—Sewer system..Manila ....P. & S........9-21
•15—Dump scow..Wilmington, N. C..P. & S........12-21
•15—Girder bridge..Cameron, Ill....P. & S........12-28
•15—Irrigation canal..Billings, Mont.P. & S........12- 7
•15—Pumping engines..Albany, N.Y..P. & S........12-21
•15—Water-works..Lincoln, Neb.....S............12-28
16—Pipe sewers..Boston, Mass....S............11-23
•19—Bridge substrctre..Salem, Mass.P. & S........12-28
•19—Bdge superstrctre..Salem, Mass.P. & S........12-28
•19—Bridge..Salem, Mass............P. & S........12-28
20—Dredging..Guantanamo, Cuba...S............12-21
•23—Boiler house..Philadelphia, Pa...P. & S........12-28
25—Wireless telegraph apparatus..
New York, N. Y............S............ 1-11
•31—Water & sewer sys..Parral, Mex.S............12-14
Feb.
•1—Canals, etc..Roswell, N. Mex...P. & S........12-28
•1—Power house..West Point, N. Y.P. S. & B. S.. 1- 4
•1—Dam, etc..Boise, Idaho.........P. & S........ 1- 4
10—Steel caisson..Charleston, S. C..S............ 1-11
Apr.
•2—Port works..Chile ....P. & S........ 5- 4
5—Wharves..Manila, P. I........P. & S........12-14

•Work advertised in Engineering News.

NOTE—We are desirous of securing specifications and bidding sheets (and plans when not too bulky) of pending work for file in our New York office for the benefit of contractors or others who may be interested in the work. If more sets than one are sent us we shall be pleased to distribute these to contractors who ask for them. When the work is advertised in Engineering News a note that the plans are filed with us will be added to the advertisement without cost.

LIST OF CONTRACTS PENDING.

Bids close. Work. Place. See issue.

LIGHT, HEAT AND POWER PLANTS.

Jan. 15.**Electric light plant, Argenta, Ark......Dec. 21**
Advertised, Eng. News, Dec. 21 to Jan. 4.
Feb. 1.**Power house, West Point, N. Y.........Jan. 4**
Advertised, Eng. News, Jan. 4 to 25.
Feb. 7.Lighting, Greenwich, N. Y.............Jan. 11
Feb. 9.Lighting plant, water-.w, Watonga, Okla.Jan. 11
No date.Gas plant, Mains, Elkader, Ia..........Dec. 14

BRIDGES.

Jan. 11.**Bridge, Houston, Tex....................Jan. 4**
Jan. 12.Bridges, Waterloo, Ia....................Jan. 11
Jan. 13.Bridge, Terre Haute, Ind.................Jan. 11
Jan. 13.Bridge, Cedartown, Ga....................Jan. 11
Jan. 15.Bridge, Lewiston, Idaho..................Jan. 11
Jan. 15.**Bridges, Minneapolis, Minn..............Jan. 4**
Jan. 15.**Bridge, Cameron, Ill.....................Dec. 28**
Advertised, Eng. News, Dec. 28.
Jan. 16.**Bridge, Waupaca, Wis...................Jan. 4**
Jan. 17.**Bridge, Tradelake, Wis..................Jan. 4**
Jan. 17.Bridges, Stanton, Neb...................Jan. 11
Jan. 19.Substructure, Salem, Mass.............Dec. 28
Advertised, Eng. News, Dec. 28 and Jan. 4.
Jan. 19.Superstructure, Salem, Mass............Dec. 28
Advertised, Eng. News, Dec. 28 and Jan. 4.
Jan. 23.Bridge, Belgium ....Nov. 2
Jan. 23.Bridges, York, Neb.....................Jan. 11

BUILDINGS.

Jan. 11.Fire station, Delaware City, Del........Dec. 21
Advertised, Eng. News, Dec. 21 to Jan. 4.
Jan. 11.Building additions, New York, N. Y...Jan. 4
Jan. 15.Mill, Laurel, Miss......................Jan. 4
Jan. 15.Elevators, Brooklyn, N. Y...............Jan. 4
Jan. 15.Heating, New York, N. Y...............Jan. 4
Jan. 15.Plumbing, New York, N. Y..............Jan. 4
Jan. 15.School, Brooklyn, N. Y..................Jan. 4
Jan. 15.School, New York, N. Y.................Jan. 4
Jan. 15.Building, So. McAlester, Ind. T.........Nov. 23
Jan. 15.Blacksmith shop, etc., Oglethorpe, Ga....Dec. 28
Jan. 15.Building, Louisville, Ky...............Jan. 11
Jan. 16.City hall, Newark, N. J.................Dec. 21
Jan. 17.Cut stone, Washington, D. C...........Dec. 28
Jan. 17.Electric wiring, etc., Rosslyn, Va......Jan. 11
Jan. 17.Building, New York, N. Y..............Jan. 11
Jan. 22.Buildings, Omaha, Neb..................Jan. 11
Jan. 24.Court-house, Jersey City, N. J........Jan. 11
Advertised, Eng. News, Jan. 11 and 18.
Jan. 26.Jail, Jacksonville, Fla.................Dec. 28
Jan. 20.Church, La Crosse, Wis.................Jan. 4
Jan. 26.Plumbing, heating, etc., Fort Logan H.
Roots, Ark............ ....Jan. 4
Jan. 26.Shelter, Fort Morgan, Ala...............Jan. 4
Jan. 29.School, East Orange, N. J..............Jan. 11
Jan. 29.Building, East Orange, N. J............Jan. 11
Jan. 30.Wiring, Washington, D. C..............Jan. 11
Jan. 31.School, Bancroft, Neb..................Jan. 4
Jan. 31.Library plans, Toronto, Ont.............Nov. 23
Feb. 1.Library, Edgerton, Wis.................Dec. 21
Feb. 1.Building, Des Moines, Ia...............Jan. 11
Feb. 1.Town hall, Perham, Minn...............Jan. 11
Feb. 2.Building, Northfield, Minn.............Jan. 11
Feb. 5.Heating and Plumbing, Logan, Ia......Jan. 4
Feb. 6.Steel sheds, New Orleans, La...........Jan. 4
Feb. 6.Officers' quarters, Chelsea, Mass........Jan. 4
Feb. 9.Building, Ames, Ia.....................Jan. 4

WATER SUPPLY AND IRRIGATION.

Jan. 12.Water-works, Minneapolis, Minn........Dec. 28
Jan. 12.Pipes, hydrants, etc., Dufur, Ore.......Dec. 28
Jan. 15.Pumping engine, Lincoln, Neb.........Dec. 14
Jan. 15.Water-works equipment, Argenta, Ark.Dec. 21
Advertised, Eng. News, Dec. 21 to Jan. 4.
Jan. 15.Pumping engines, Albany, N Y.........Dec. 21
Advertised, Eng. News, Dec. 21 and Jan. 4.
Jan. 15.Cisterns, Key West, Fla.................Dec. 21
Jan. 15.Irrigation canal, Billings, Mont.........Dec. 7
Advertised, Eng. News, Dec. 7 to 18.
Jan. 15.Water-works, St. Charles, Ill............Jan. 11
Jan. 15.Pump, Monmouth, Ill...................Jan. 11
Jan. 16.Tank and trestle, Seattle, Wash........Dec. 28
Jan. 17.Addition, water system, Rochester, N.Y.Jan. 11
Advertised, Eng. News, Jan. 11.
Jan. 16.Main, Bayonne, N. J...................Jan. 11
Jan. 19.Pipes, valves, etc., St. Louis, Mo.......Jan. 11
Jan. 19.Main, hydrants, etc., New York, N. Y..Jan. 11
Jan. 19.Water-works supplies, St. Louis, Mo....Dec. 28
Jan. 31.Water and sewer system, Parral, Mex..Dec. 14
Advertised, Eng. News, Dec. 14.
Jan. 22.Turbine pump, Winnipeg, Man.........Jan. 4
Advertised, Eng. News, Jan. 4 and 11.
Jan. 30.Pumping station, Cincinnati, O........Jan. 4
Feb. 3.Water system, Fort Fremont, S. C......Jan. 11
Feb. 5.Water-works, McMinnville, Ore.........Jan. 11
Feb. 6.Water system, Greeley, Colo...........Jan. 4
Advertised, Eng. News, Jan. 4 and 11.
Feb. 15.Water-works, De Queen, Ark...........Jan. 4
Advertised, Eng. News, Jan. 4.
No date.Water meters, Delphi, Ind.............Dec. 7
Advertised, Eng. News, Dec. 7.
No date.Water-works, etc., Zionsville, Ind......Dec. 21

SEWERAGE.

Jan. 12.Sewer system, Philippines..............Sept. 21
Advertised, Eng. News.
Jan. 12.Sewer, Crafton, Pa......................Jan. 11
Jan. 15.Trunk sewer, Washington, D. C......Dec. 14
Advertised, Eng. News, Dec. 14 and 21.
Jan. 15.Sewer system, Texarkana, Ark........Dec. 21
Jan. 15.Sewers, Kelso, Wash....................Jan. 4
Jan. 16.Sewers, Cleveland, O...................Jan. 11
Jan. 23.Sewers, Atlantic, Ia....................Jan. 4
Advertised, Eng. News, Jan. 4.
Jan. 25.Sewer system, Lexington, N. C........Jan. 4
Advertised, Eng. News, Jan. 4 to 18.
Jan. 25.Sewer system, Gainesville, Fla.........Jan. 4
Advertised, Eng. News, Jan. 4 to 18.
Jan. 25.Sewers, Cincinnati, O...................Jan. 11
Jan. 29.Sewage disposal plant, Fairmont, Ia....Jan. 11
Feb. 1.Sewer system, St. Johns, Ore..........Dec. 21
Feb. 15.Storm sewer system, Dayton, O........Jan. 4

STREETS AND ROADS.

Jan. 13.Paving, Cleveland, O...................Jan. 4
Jan. 13.Grading, Cleveland, O..................Jan. 4
Jan. 13.Roads, Knox, Ind.......................Dec. 28
Jan. 22.Paving, Jacksonville, Fla...............Jan. 11
Jan. 25.Paving, Winchester, Ind................Jan. 11
Feb. 1.Paving, Lawton, Okla...................Jan. 11
Feb. 5.Grading, Rockville, Ind.................Jan. 11
No date.Paving material, Lynchburg, Va.......Dec. 14
Advertised, Eng. News, Dec. 14.

MISCELLANEOUS CONTRACTS.

Jan. 11.Drainage, Pekin, Ill......................Jan. 4
Jan. 11.Supplies, Washington, D. C...........Dec. 28
Jan. 12.Dredging, New York, N. Y...........Dec. 28
Advertised, Eng. News, Dec. 28 and Jan. 4.
Jan. 12.Ditch work, Glencoe, Minn..............Nov. 30
Jan. 12.Gantry crane, Panama ....Jan. 4
Jan. 12.Ferryboat repairs, New York, N. Y.....Jan. 11
Jan. 13.Ditches, Cleveland, O...................Jan. 4
Jan. 13.Garbage disposal plant, Racine, Wis....Dec. 28
Jan. 15.Excavation, Buffalo, N. Y.............Dec. 7
Advertised, Eng. News, Dec. 7 to 14.
Jan. 15.Scow, Wilmington, N. C................Dec. 21
Advertised, Eng. News, Dec. 21 to Jan. 11.
Jan. 15.Steel pipe, Natal (Foreign) ....Jan. 4
Jan. 16.Naval supplies, Cuba ....Jan. 4
Jan. 16.Subway, Newark, N. J..................Jan. 11
Jan. 23.Railings, New York, N. Y..............Jan. 11
Jan. 17.Drainage ditch, Ft. Dodge, Ia...........Dec. 28
Jan. 20.Railways, Philippine Islands ....Dec. 28
Jan. 20.Dredging, Guantanamo, Cuba...........Dec. 21
Jan. 24.Vessel, Washington, D. C..............Jan. 4
Jan. 24.Electric hoists, New York, N. Y........Jan. 11
Jan. 25.Wireless teleg'ph apparatus, N. Y., N.Y.Jan. 11
Jan. 29.Plants, etc., Atlantic Coast Line.......Jan. 4
Advertised, Eng. News, Jan. 4 to 18.
Jan. 30.Ingots, spelter, Italy (Foreign)..........Jan. 4
Jan. 31.Tunnel, Guanapuato, Mex..............Dec. 14
Feb. 1.Canals, Roswell, N. Mex...............Dec. 28
Advertised, Eng. News, Dec. 28 to Jan. 18.
Feb. 1.Dam, Boise, Idaho.....................Jan. 4
Advertised, Eng. News, Jan. 4 to 25.
Feb. 1.Vessel, Washington, D. C..............Jan. 11
Feb. 5.Drain, Iowa City, Ia...................Jan. 4
Feb. 6.Steel sheds, New Orleans, La..........Dec. 28
Advertised, Eng. News, Dec. 28 and Jan. 4.
Feb. 6.Cement, Belle Fourche, S. Dak........Jan. 11
Advertised, Eng. News, Jan. 11 to Jan. 25.
Feb. 8.Riprap breakwaters, New York, N. Y...Jan. 11
Advertised, Eng. News, Jan. 11 to Feb. 1.
Feb. 8.Steel lock gates, Nashville, Tenn........Jan. 11
Advertised, Eng. News, Jan. 11 to Feb. 1.
Feb. 8.Drainage ditch, Sioux City, Ia..........Jan. 4
Feb. 10.Breakwaters, etc., Egypt (Foreign)....Jan. 4
Feb. 10.Steel caisson, Charleston, S. C..........Jan. 11
Feb. 13.Steel tower, Shreveport, La............Dec. 28
Advertised, Eng. News, Dec. 28 to Feb. 8.
Feb. 15.Locks and dams, Dallas, Tex...........Jan. 4
Advertised, Eng. News, Jan. 4 to 18 and Feb. 8.
Mar. 10.Two snagboats, Vicksburg, Miss........Jan. 11
Advertised, Eng. News, Jan. 11-18, Feb. 1-8.
Apr. 5.Wharves, Manila, P. I.................Dec. 14
Apr. 2.Port works, Chile ....May 4
Advertised, Eng. News, May 4, 1905 to Apr. 1, 1906.
May 1.Steel dock, Chile ....Nov. 9
No date.Filling, Far Rockaway, N. Y........Dec. 14
Advertised, Eng. News, Dec. 14.
No date.Railroad grading, etc., Tidewater Ry..Dec. 14
Advertised, Eng. News, Dec. 14 to 28.

TO ENGINEERS AND CONTRACTORS

ENGINEERING NEWS desires to obtain the **earliest possible reliable information** concerning all projected work. We will appreciate any items that you may send us. Copies containing such information will be mailed to you, upon request.

ADDRESS

Wainwright A. S. Randall, Editor,
The Construction News Department.

RAILWAYS.

The names of parties awarded contracts are printed in capital letters.

ASHEVILLE SOUTHERN.—This company has been granted a charter in North Carolina. Company is to develop industrial operations in Asheville, N. C. The railway will be five miles long. Officials of the Southern Ry. Co. are the incorporators. Capital stock is $150,000.

AUGUSTA SOUTHERN.—Mamilton McWharter, Pres., at Lexington, Ga., has stated that improvements will be undertaken soon for repairing the track and straightening curves. Directors recently appropriated $100,000 for improvements.

ATLANTIC COAST LINE.—An extension may be built from Macon to Atlanta, Ga., 88 miles, and also a cut-off on the Macon, Dublin & Savannah Ry. from Vidalia to a point near Jesup, Ga., 60 miles. E. B. Pleasants is Ch. Engr., at Wilmington, N. C.

BALTIMORE & OHIO.—It is reported that the B. & O. will build 75 miles of road through Shenandoah and Rockingham Counties, Va., paralleling the Southern Railway between Strasburg and Harrisonburg. At Harrisonburg the company will use its own tracks, which run now from Harrisonburg to Lexington, a distance of 60 miles. At Lexington the company will lay rails on a roadbed already graded that runs from that point to Salem, Va., a distance of 40 miles. Salem is six miles from Roanoke. Its main line will run to Roanoke, with a spur to Salem.

BOYNE CITY, GAYLORD & ALPENA.—Company will build an extension from Gaylord to Alpena, Mich., about 75 miles. It is said that not more than 35 miles will be built this year. W. H. White is Pres. and Gen. Mgr., at Boyne City, Mich.

BEAUMONT & SARATOGA TRANSPORTATION CO.—This company has completed eight miles of steam railroad from Voth, Tex., to Black Creek, and is reported to be building from Black Creek to Pelt, five miles. An extension is proposed from Pelt to Saratoga, eleven miles, and also a branch to connect with the Beaumont, Sour Lake & Western at or near Bunch, Tex. J. H. Broome is Supt., at Voth, Tex.

CHARLOTTE, MONROE & COLUMBIA.—An extension may be built next spring. It would be eight or ten miles long, extending northerly from Jefferson, S. C. J. H. Diggs is vice-Pres., at McBee, S. C.

CAIRO & THEBES.—We are advised that this company is organizing and securing right-of-way. It was incorporated recently in Illinois to build from Cairo, Ill., to Thebes, 25 miles. E. A. Smith, of Cairo, is Pres.

CLEAR LAKE & SOUTHERN.—This company has been incorporated in California by Joseph P. Lucey, W. E. Cashman and Wm. T. Love, of San Francisco; Guy C. Caldwell, of Oakland; and Kent J. C. Seymour, of Mill Valley, Cal. The capital stock of the company is $350,000. Company proposes to construct and operate a ferry system between San Francisco and some point in Marin County, on San Francisco and San Pablo Bays, connecting with a railroad running through Marin, Sonoma, Napa and Marin Counties to a point near Lakeport, an estimated distance of 130 miles. There will be two branches running from the main line —one from a point near San Quentin to San Rafael, an estimated distance of five miles, and the other from a point near Reclamation, in Sonoma County, to Petaluma, a distance of seven miles, making an estimated total mileage of 142 miles. Previously noted.

CAPE GIRARDEAU & CHESTER (Chester, Perryville & Ste. Genevieve Ry.).—A 12-mile extension will be built from Saline Valley Junction to Minnith, Mo. J. Tlapek is Pres. and Gen. Mgr., at St. Marys, Mo.

CINCINNATI, BLUFFTON & CHICAGO.—Extensions are planned as follows: From Huntington, Ind., southeasterly to Bluffton, and from Portland southeasterly to Union City, about 50 miles. J. C. Curtis is Gen. Supt., at Portland, Ind.

CHICAGO, MILWAUKEE & ST. PAUL.—D. J. Whittemore, Ch. Engr., Chicago, reports that track has been laid on extensions of this road during the past year as follows: White River Valley branch, from Chamberlain, west to Presho, S. Dak., 40 miles; branch from Armour to Stickney, S. Dak., 21 miles; on the extension from Madison to Sioux Falls, S. Dak. track laid from Madison to Saranac, 11 miles.

CANADA.—The Board of Railway Commissioners has approved location plans for a railway four miles in length from Staynerville, Que., southerly and westerly to Brunets Corners.

Notices have been made that the following applications will be made to the British Columbia parliament for acts incorporating the following railways: Eberts & Taylor, Vancouver, B. C., for a railway from Kamloops or Ashcroft to Barkerville or George, B. C.——Harvey & McCarter, of Cranbrook, B. C., for the St. Marys & Cherry Creek Ry. for a railway from a point on the North Star branch of the British Columbia Southern Ry. near Bayard to a point on Cherry Creek with branch lines not exceeding ten miles in length, to connect with the Canadian Pacific Ry.——D. G. Macdonnell, of Vancouver, for the Vancouver & North Western Ry. for a line from Vancouver eastward to the Stave River, thence to Harrison River, thence to Lillooet, thence to Fort George and northerly.——Tupper & Griffin, Vancouver, for the Kamloops & Yellow Head Pass Ry., for a railway from Kamloops to Tête Jaune Cache.——Robertson & Robertson, of Vancouver, have given notices for the following lines: For an amendment to the charter of the Midway & Vernon Ry., for a railway from Vernon to Kamloops and from some point on the company's line to Penticton.——For a company to build a railway line from Vancouver or a point on Burrard Inlet to the northern boundary by way of Lillooet, the Fraser Valley, Tacla Lake, Stikine River and Teslin Lake.——Also for an act to incorporate a company with powers to acquire and operate the undertakings of the Vancouver & Coast Kootenay Ry., the Alberni & Cowichan Ry., the Kamloops & Atlin Ry. and the Midway & Vernon Ry. companies.

CHICAGO, MILWAUKEE & ST. PAUL.—According to reports work on the survey of the extension of the Chicago, Milwaukee & St. Paul from Evarts, S. Dak., to Seattle, Wash., was begun recently in Montana. A. G. Baker, of Chicago, Ill., Ch. Engr. of the division of 400 miles between Butte and Miles City, has assumed supervision of the work. Surveying crews, composed of Chicago engineers, will be sent westward within a few days and work will be pushed as rapidly as possible, according to Mr. Baker, who says the company's trains will be in Butte at least by 1908. It will take four years to get the Milwaukee line into Seattle, Mr. Baker estimates. In all probability the Milwaukee will touch Lewiston, Idaho, crossing the Bitter Root in Montana, down the Clearwater, thence to Lewiston, with a spur to the town, following the general direction and the river courses of the Northern Pacific. It is practically positive that Spokane and Anaconda will not be on the main line, though branch lines will touch both points. Salmon City, Grangeville and Thunder Mountain districts will all be tapped.

CARUTHERSVILLE & WESTERN.—Incorporated in Missouri to build a [illegible] road from Caruthersville to Deering, 12 miles. Capital stock, $120,000. Incorporators: J. M. Blazer, of Chicago, Ill.; Hina C. Schult, S. P. Reynolds and E. C. Randolpt, of Caruthersville, Mo., and B. R. Metcalf, of Deering, Mo.

COAL RIVER.—Company is reported to have given a contract to J. C. CARPENTER & CO., of Clifton Forge, Va., for building an extension from Sproul to Rock Creek, W. Va., 17½ miles. The company intends to build 35 miles of additional railway. C. K. McDermott is Gen. Supt., at St. Albans, W. Va.

CLEVELAND, CINCINNATI, CHICAGO & ST LOUIS.—We are informed that plans are under way for approval for track elevation of railways entering Indianapolis. The first track elevation resolution, under the law passed by the last session of the Legislature, has been adopted by the Board of Public Works of Indianapolis, and has been agreed to by representatives of the Cleveland, Cincinnati, Chicago & St. Louis Ry. and the Vandalia R. R. Provision has been made for the elevation of tracks and the depression of the streets at Kentucky Ave. and Missouri and West St. crossings, and for the erection of a new bridge over White River for the Vandalia. Estimated cost is $300,000. G. W. Kittredge, Cincinnati, is Ch. Engr. of the C., C., C. & St. L., and F. T. Hatch, St. Louis, Mo., is Ch. Engr. Vandalia. Work will be begun in the spring.

DELAWARE & EASTERN.—H. M. George, Secy. and Treas., 7 Wall St., New York, has stated that this company is building a steam road from East Branch to Arkville, N. Y., 35 miles, with a branch eight miles long to Andes. Surveys have been made for the main line and branch, and grading is completed for 25 miles, with ten miles of track laid from Arkville to Union Grove. JOHN R. DOLAN & CO., of Paterson, N. J., are the contractors for 18 miles, and the rest of the work is being done by the company's forces. The road connects with the New York, Ontario & Western at East Branch and the Ulster & Delaware, at Arkville. F. F. Searing, 7 Wall St., New York, is Pres.; O. F. Wagenhurst, Ch. Engr., Downsville, N. Y.; Russell Murray, Vice-Pres., New York.

DULUTH, RAINY LAKE & WINNIPEG.—The name of the Duluth, Virginia & Rainy Lake, which is in operation from Rainy Junction near Virginia, Minn., north to Ashawa, 24½ miles, has been changed to the Duluth, Rainy Lake & Winnipeg, and amended articles of incorporation have been filed in Minnesota. It is said to be the purpose of the new company to build an extension from Ashawa north to Winnipeg, Man. The old company had projected an extension from Ashawa to Koochiching, 70½ miles, and grading is completed from Ashawa north to Pelican Lake, 16 miles. The company has ordered 8,000 tons of steel rails for delivery early in 1906. The line is being operated by the Minnesota Land & Construction Co., David O. Anderson, Secy., pending construction. Wirt H. Cook is Pres., Duluth, Minn.

GREAT NORTHERN.—This company has under construction, or survey, four important new extensions aggregating 1,000 miles in length. In addition it has just completed, or has nearing completion, 500 miles of small extensions and spurs. The program for this year will be considerably larger. The important new extensions on Great Northern are: (1) Pasco to Portland, Ore., 230 miles, under survey and partly under grading. Northern Pacific is building the line jointly with Great Northern. (2) Sioux City to Omaha, Neb., 120 miles, about completed. Later this line may be turned over to the Chicago, Burlington & Quincy Co. (3) Billings to Great Falls, Mont., 230 to 250 miles, now being surveyed under the direction of Walter Hill, son of J. J. Hill. (4) Midway to Vancouver, B. C., now under construction, 400 miles. Three of the less important extensions are into the wheat fields of North Dakota as follows: Munich to Searles, Starkweather to Hansborough, York to Thorn, about 225 miles in all. The rest would make a total of about 500 miles. The Great Northern has ordered between 3,000 and 4,000 new box cars and 75 locomotives. Its power and equipment have been well balanced. The new equipment is expected to meet the needs of the system for some time to come.

INDIANA HARBOR R. R.—The F. L. HARTIGAN CONSTRUCTION CO., of Chicago, Ill., has the contract for building an 18-mile branch line from Indiana Harbor, Ind., to Dune Park. R. B. Seymour is Ch. Engr., 400 La Salle St., Chicago.

LONG ISLAND R. R.—It is reported that this company has filed a complete set of plans with the Village Trustees at Patchogue (L. I.), N. Y., for the depression of the tracks of the road in this village. The actual cost of the depression is estimated at $137,000. The plans provide for the lowering of the tracks seven ft. and the raising of the streets about eleven ft. J. R. Savage is Ch. Engr., at Jamaica, N. Y.

MILWAUKEE TERMINAL.—This company has been incorporated in Wisconsin to build a line three miles long from a point in the Fourth Ward to the city limits, and it is reported that it is in the interests of the Wisconsin Central, which now enters the city over the Chicago, Milwaukee & St. Paul tracks. The capital stock is $150,000. The incorporators are W. D. Van Dyke, Pres.; George D. Van Dyke, Carl Muskat, Howard Greene and E. W. Howland, of Milwaukee.

NORFOLK & WESTERN.—It is reported that this company will spend $1,000,000 in enlarging its yards and shops at Roanoke, Va., during 1906. C. S. Churchill, Ch. Engr., Roanoke, states that DAVID W. FLICKWIR, of Roanoke, has contract for extensions contemplated this year.

NEW YORK, NEW HAVEN & HARTFORD.—Extensive improvements at Providence, R. I., are to be attempted, according to local reports. A tunnel is to be constructed under College Hill. E. P. Dawley, Boston, Asst Ch. Engr., will be in charge of the project, it is said.

PENNSYLVANIA R. R.—The Philadelphia "Ledger" announces that Mayor James Weaver has approved the plans of the Pennsylvania Railroad for elevating its tracks along Trenton Ave., Philadelphia. This action was taken recently after the Mayor, A. Lincoln Acker, Dir. Dept. Public Works, George S. Webster, of the Bureau of Surveys, and Chief Engineer W. H. Brown, of the railroad company, had made a trip of inspection of the property involved. Contracts for the elevation of the tracks will be awarded at once, as bids are in the hands of Chief Engineer Brown. The cost of the work is estimated at $1,500,000, and of this amount the city will pay one-half and the subsequent property damages. The city has already paid out about $150,000 for land damages, and it has available out of a previous loan $760,000. Any additional funds required will be appropriated out of funds to be realized under the loan authorized at the recent municipal election.

PENDLETON & PILOT ROCK.—Financial backing having been secured it is planned to begin active construction of this railway. It will run between Pendleton and Pilot Rock, Ore.

ROCK ISLAND, ARKANSAS & LOUISIANA.—The stockholders of the Rock Island, Arkansas and Louisiana Railroad Co. have authorized a bond issue not to exceed $15,000,000, the proceeds of which are to be used for new construction and equipment. A lease to the Chicago, Rock Island & Pacific was also authorized.

SOUTH SIDE COAL & RY. CO.—We are informed by George D. Locke, Pres. and Gen. Mgr., Missouri Trust Bldg., St. Louis, Mo., that company plans to commence construction about Feb. 15. Capital stock has been increased to $1,500,000. The line will extend from Paris to Dardanelle, Ark., about 40 miles.

UNIONTOWN & WHEELING SHORT LINE.—Bids for building this road from Uniontown, Pa., to Wheeling and Benwood, W. Va., 68 miles, will be received in January, it is reported. J. V. Thompson, Chn. of the Board, Uniontown, Pa., has financed project for construction and a $10,000,000 loan has been raised. D. F. Maroney, Farmers' Bank Bldg., Pittsburg, Pa., is Pres.

WALLULA PACIFIC.—Contracts for building 100 miles of this road have been awarded to the following contractors, all of Portland, Ore.: O. D. WOLFE, ten miles; ARCHIE MASON, ten miles; M. B. GOLDEN, ten miles; DAN KERN, 50 miles, and E. T. JOHNSON, 20 miles. The road is projected from Wallula, Wash., along the north bank of the Columbia River to the mouth of the river, opposite Astoria, Ore., a distance of 321 miles. Grading has been commenced. L. Gerlinger is Pres. and J. R. Holman, Ch. Engr., both of Portland, Ore.

WISCONSIN.—It is reported that the United States Steel Corporation has completed surveys for a belt railroad from Milwaukee and Chicago around the southern end of Lake Michigan.

ELECTRIC RAILWAYS.

The names of parties awarded contracts are printed in capital letters.

GENEVA, N. Y.—A corps of surveyors under James W. Brennan, of Geneva, and A. P. Hainey, of Seneca Falls, is laying out the route of the proposed Geneva, Phelps & Newark Electric Ry. An application is now pending before the State Railway Commissioners for the right to build.

ATLANTIC CITY, N. J.—William J. Thompson, of Gloucester City, N. J., is said to be at the head of a company which will build a third-rail line from Gloucester City to Atlantic City. Right-of-way was secured by Mr. Thompson several years ago. The estimated cost is $6,000,000. On Dec. 28 a full account of the Pennsylvania R. R.'s electric railway from Camden, N. J., to Atlantic City, was given in Engineering News under Electric Railways.

CLEARFIELD, PA.—The Portage Electric Co., recently incorporated with $18,000 capital, will build a 3-mile electric railway. We are advised that company is not ready to announce details. H. A. Tompkins is Pres. and E. W. Hess Ch. Engr., at Clearfield, Pa.

STROUDSBURG, PA.—We are informed that matters will be in definite shape before long for building the Strousburg & Wind Gap Electric St. Ry. Right-of-way is secured. J. B. Williams, of Stroudsburg, is Pres.

BALTIMORE, MD.—The United Railways & Electric Co. has awarded a contract to DAVID E. EVANS, of Baltimore, to build 3½-mile double-track extension from Sparrows Point to North Point which will be about 4½ miles long altogether. THE MARYLAND STEEL CO. has contract for building the other mile. SANFORD & BROOKS, of Baltimore, are doing the pile work for bridge construction.

FAYETTEVILLE, W. VA.—It [illegible] reported that the Fayetteville & Beckley Railroad Co. has been chartered to build an extension of the Fayette & Fayetteville Electric Ry. via Oakhill, Glen Jean, Mount Hope and Prosperity to Beckley, W. Va., about 30 miles. A. D. Roberts, Ben D. K[illegible], J. R. Kyle, Edmund R. French and W[illegible] Jones, all of Fayetteville, are the incorporators.

AUGUSTA, GA.—James O. J[illegible], of North Augusta, S. C., has purchased the Augusta-Aiken Ry. & Electric Co., which will be extended to Columbia, S. C.

KNOXVILLE, TENN.—Contracts are to be let soon for building the Knoxville & Maryville Electric Ry. It will extend from Knoxville to Vestal, Rockford, Scottsville and Maryville, 16 miles. Walter S. Nash is Pres., Knoxville; Robert Vestal is First Vice-Pres., at Vestal, Tenn.; J. Cal. [illegible] is Second Vice-Pres., Cumberland; Joseph P. Taut, Knoxville, is Treas. W. C. Crozer, of Knoxville, is Engr.

MANSFIELD, O.—Charles Jackson, of Philadelphia, Pa., is reported to have financed the proposed electric railway between Mansfield and Wooster. Noted last week under Wooster, O.

LANCASTER, O.—J. S. Sites, of Lancaster, is interested in a project to build a line from Newark to Lancaster by way of Thurston and Millersport, with a branch from Thurston to Columbus by way of Baltimore and Basil. The line would practically parallel the Columbus, Buckeye Lake & Newark line and the Lancaster division of the Scioto Valley traction line, of Columbus, O.

CINCINNATI, O.—The Cincinnati Northern Traction Co. will construct a new double-track line between Miamisburg and Dayton, O. No further information. C. E. Alderman, of Hamilton, O., is Ch. Engr.

LIMA, O.—Camp & Carner, of Lima, desire to correspond with general contractors or supply houses for co-operative financial backing for building and equipping several electric railways, power plants and waterworks.

TOLEDO, O.—Frank M. Ohl, Vice-Pres. of the Fostoria, Carey, Upper Sandusky & Marion Ry. Co., has announced that this company will build a line between Columbus and Toledo, via Marion.

ANDREWS, IND.—The Town Council has granted a 25-year franchise to the Andrews Light & Water Co. for the construction and operation of a short electric railway from the middle of the village to the station on the Fort Wayne & Wabash Traction line, across the Wabash River, about one mile.

INDIANAPOLIS, IND.—The Indianapolis, Newcastle & Toledo Electric Railway Co. has filed a mortgage with the Recorders of Marion, Hancock, Henry, Wayne, Madison, Delaware, Randolph and Jay Counties to secure a bond issue of $4,500,000. The company expects to build a line from Indianapolis to Newcastle and Winchester, from Newcastle to Richmond, from Newcastle to Muncie and from Shirley to Anderson. It is also making plans for a line from Indianapolis to Toledo, and for a belt line around Indianapolis. D. M. Parry, of Indianapolis, is Pres., and C. S. Hernly, of Newcastle, Secy. Mr. Hernly is reported as having made an announcement stating that the contract for construction will be let soon.

FT. WAYNE, IND.—The Ft. Wayne & Wabash Valley Traction Co. has a corps of engineers in the field making a preliminary survey for its extension from Logansport to Lafayette, to be built probably this spring. M. J. Kehoe is Engr., at Ft. Wayne.

The Ft. Wayne, Bluffton & Marion Traction Co. has completed track laying from Ft. Wayne to Bluffton, and is pushing overhead work to rapid completion. C. D. Emmons, Ft. Wayne, is Gen. Mgr.

WARSAW, IND.—The Winona Interurban Ry. Co. has abandoned the route from Warsaw to Akron via Mentone, for its line between Peru and Warsaw, as certain subsidies were voted down. The line will be built paralleling the Big Four railroad from Warsaw to Silverlake and thence to Akron. The company expects to have the line built between Peru and Warsaw by July 1, 1906. S. C. Dickey is Gen. Mgr., at Winona Lake, Ind.

STURGEON BAY, WIS.—J. A. Becker, of Milwaukee, announces that the Door County Electric Railway will be built as soon as sufficient financial aid is given. It is proposed that the county issue bonds for $60,000 to provide the necessary bonus.

BELOIT, WIS.—Brink & Davis, of Cincinnati, O., will build a street railway line here for which they were granted a franchise.

DES MOINES, IA.—Dr. E. E. Dorr and James Ashworth, of Des Moines, are interested in plan to construct an electric line from Des Moines to Valley Junction. Gasoline would be used for the motive power.

DES MOINES, IA.—Ottumwa Ry. & Light Co., with its principal place of business located at Wilmington, Del., has been incorporated with an authorized capital stock of $1,500,000. The object of the company is the purchase, control, maintenance and operation of the light and heating plants of Ottumwa, Ia., also the city railway system of that city, known as the Ottumwa Light & Traction Co. and the construction of interurban lines in the vicinity of Ottumwa, Ia. The incorporators of the company are: Harry W. Davis, of Wilmington, Del.; John J. O'Brien, Robert J. Graff, James S. Cummins and Isaac Milkewich, all of Chicago, Ill.

IOLA, KAN.—The city has raised $25,000 for construction of the Kansas Southern Electric R. R., which will connect Humboldt, Petrolia, Chanute, Iola, La Harpe and Gas City, 18 miles. F. V. Crouch is Pres. and Gen. Mgr., at Iola.

HUTCHINSON, KAN.—The city council has granted a franchise to Emerson Carey, K. E. Sentney, C. H. McBurney, A. W. Smith, C. M. Williams and J. S. George to build an electric railway here. The franchise is for 50 years, and the ordinance authorizes the company also to engage in the making of gas and electricity for public use. The franchise for the latter is for a term of 20 years.

JOPLIN, MO.—It is reported that a franchise has been granted to W. H. Mitchell, of New York, and Wm. S. Brawner, of St. Louis, to build a street railway through this city. The proposed line is to be 100 miles in length, and will have its beginning in Joplin, and, after making a circuitous route through the country southeast of Joplin, will terminate at this place. The cost of building the road is estimated at $2,000,000. The line will be operated with gasoline motor cars.

GALVESTON, TEX.—An electric line between Galveston and Houston may be built by a company of Houston capitalists. The officers of the company are as follows: J. O. Ross, Pres.; H. C. House, Vice-Pres.; J. C. Rice, Treas.; F. L. Dana, Secy.; William E. Scott, Land Commissioner and right-of-way man; O. T. Holt, Attorney, all of Houston. In addition to these are Harris Masterson and Hyman Levy, of Houston; and W. J. Moore, of San Antonio.

CANYON CITY, COLO.—F. S. Granger, of San Jose, Cal., will build the electric railway from Canyon City to Florence. Previously mentioned.

SAN FRANCISCO, CAL.—The Parkside Transit Co. has been incorporated in California for the purpose of constructing a railway, five miles long, for the recently laid out Parkside section of this city. The directors are: William H. Crocker, H. T. Scott, C. E. Green, J. J. Mahoney, Hugh Keenan, J. M. O'Brien, A. F. Morrison, W. Gregg, Jr., William Matson, W. B. Cope, Douglas S. Watson and J. E. Green. The capital stock has been fixed at $500,000, of which $60,000 is subscribed.

BERKELEY, CAL.—M. K. Miller, C. E., of Oakland, is promoting an electric railroad which he proposes to build in Alameda County.

GRASS VALLEY, CAL.—The Nevada County Narrow Gauge R. R. is said to plan a change of motive power from steam to gasoline motors. Mrs. S. O. Kidder is Pres. Charles P. Longbridge is Ch. Engr., at Grass Valley. Company operate 23 miles of railway.

SAN JOSE, CAL.—The Peninsular Railroad Co. has been incorporated to build electric roads from San Jose, as the point of departure, to San Francisco, through Stanford University, Palo Alto, Redwood City and San Mateo, with a branch line to Los Gatos; also to the State Sempervirens Park, in the Big Basin; also to Alviso, Oakland and Alameda; also to Alum Rock Park and Lick Observatory, at the summit of Mount Hamilton. The total mileage will be 204 miles. The capital stock is $5,000,000, of which $205,000 has been subscribed. The directors are O. A. Hale, F. E. Chapin, Gus Lion, W. C. Andrews and A. E. Wilder. It is reported that the San Jose and Los Gatos Co., of which O. A. Hale is Pres., and also the Mount Hamilton Exploitation Co., will be merged with the new corporation. The latter company has completed two surveys to the summit of Mount Hamilton, one by way of Evergreen and the other via Alum Rock.

CORNWALL, ONT.—A. B. Turner, of Boston, Mass., has secured a charter in Canada for an electric railway along the St. Lawrence River and Lake Ontario from Cornwall to Toronto.

MONTREAL, QUE.—The Montreal Park & Island Electric Railway Co. may extend its system on the Back River section next spring. A new line connecting the Cartiersville and Sault-au-Recolet branches will be built to parallel the Riviere des Prairie, from Cartiersville to Bordaux, Ahuntsic, Sault-au-Recolet and St. Vincent-de-Paul. R. M. Hannaford is Ch. Engr. This company is controlled by the Montreal Street Ry. Co.

LIGHT AND POWER PLANTS.

The names of parties awarded contracts are printed in capital letters.

BOSTON, MASS.—At the final meeting of the city council for 1905 the order to refer to the people the question of whether or not the city should own its own electric lighting plant was rejected by a vote of 42 to 10.

LOWELL, MASS.—Municipal ownership of lighting plant is said to be favorably considered by Board of Aldermen.

WEST POINT, N. Y.—Plans, specifications and instructions to bidders are on file at office of Engineering News, New York, for a power-house at West Point. Bids are asked until Feb. 1, as advertised in Engineering News.

GREENWICH, N. Y.—Bids are asked until Feb. 7 by the Village Board of Trustees for furnishing material and lighting the streets and two engine-houses for a period of either one or five years from July 1, 1906; the streets to be lighted with 50 electric arc lamps of 2,000 c. p. each, from sundown to sunrise. S. J. Tefft, Village Clk.

SARANAC LAKE, N. Y.—The Paul Smiths Electric Light & Power Co., of Saranac Lake, which has pending before the State River Improvement Commission application for authority to build reservoirs on the Saranac River to flood 400 acres of state lands, has applied to the State Gas Commission for authority to transact business and to issue $100,000 stock. The company offers to build the dams to store water without expense to the state. The directors include: Phelph Smith and Arthur B. Baker, of Paul Smiths, N. Y., and John M. Cantwell, of Malone, N. Y.

TANEYTOWN, MD.—A company has been incorporated at Westminster, Md., for the purpose of building an electric lighting plant in Taneytown. The incorporators named in the charter are Daniel J. Hesson, Edward E. Reindollar, Joseph E. Roelkey, Preston B. Englar and Harvey E. Weant. The capital stock is $8,000.

BALTIMORE, MD.—The "Sun" states that an appropriation of $500 for the expenses of the Municipal Lighting Commission is now available, and a meeting will be held in the near future to map out plans of procedure. The proposition is to investigate lighting conditions and report the feasibility and advisability of establishing a municipal plant. If such a plant is recommended there is a loan of $1,350,000, which only needs the approval of the city council and the ratification of the people to make it available. The members of the commission are Edwin J. Baetjer, Subway Engineer Charles E. Phelps and City Engineer B. T. Fendall.

EDGEWOOD, GA.—City may issue $15,000 of bonds for municipal lighting purposes. It is planned by this place to build an independent lighting plant.

BIRMINGHAM, ALA.—The Empire Construction Co. has been incorporated to build a 15-story building, electric lighting plant and water-works plant and probably also a steam-heating plant. The officers are Ross C. Smith, Pres.; John L. Kaul, Vice-Pres.; F. B. Fowlkes, Secy.; and Henry B. Gray, Treas.

LIMA, O.—J. W. Halfhill, of Lima, and H. L. Canfield, of Delphos, have petitioned city for a franchise to construct and maintain an electric lighting plant here.

CINCINNATI, O.—A new power plant is to be constructed here to cost $300,000. The Security Building Co., of which Irwin M. Krohn is Pres., is reported to be interested in the scheme.

NEW BREMEN, O.—The village council is considering a new street lighting proposition for this place. No further information.

CLEVELAND, O.—An appropriation of $56,000 has been asked for extending the South Brooklyn municipal lighting plant.

WALKERTON, IND.—At a recent election it was voted to construct and operate an electric lighting and power plant.

OOLITIC, IND.—George Cadogan Morgan, 808 Royal Insurance Bldg., Chicago, is Designing Engr. for proposed electric lighting plant here. The matter is delayed until funds are raised.

MUSKEGON, MICH.—See under Water Supply.

ALPENA, MICH.—The Alpena Power Co. has made arrangements, it is said, to develop the water power of Thunder Bay River. George P. Smith, of Alpena, is the promoter.

PARIS, ILL.—Leslie B. Denning, of Wellston, O., has applied to the city of Paris to supply natural gas.

MACOMB, ILL.—A committee has been appointed to consider building and installing a lighting plant for the city.

PORT WASHINGTON, IA.—See under Water Supply.

KEOKUK, IA.—It is said that plans for the proposed water power dam, lock and dry lock have been submitted to Col. C. S. Riche, Engr., of Rock Island, and Major M. Meigs, of Keokuk. If they approve of these plans they will then be placed before the War Department at Washington for final approval.

DULUTH, MINN.—See under Water Supply.

BELLEVILLE, KAN.—The city authorities are considering the establishment of a new electric lighting system here.

SEDALIA, MO.—It is reported that the city engineer will prepare plans for rebuilding the gas plant.

WATONGA, OKLA.—Bids are asked until 1 p. m., Feb. 9, for material and labor for the construction of a complete electric light plant and for water main extensions. Bids will be received on each item and on the work as a whole. There will be required cast iron pipe, hydrants, valves, steam engine, dynamo, arc lamps, poles, wire, boilers, feed pump, heater, meters, etc. The city has money in the treasury to pay for the work in cash. Address M. A. Earl, Consulting Engr., Muskogee, Ind. T. G. E. Moore is City Clk.

WELEETKA, IND. T.—The plant of the Weleetka Electric Light & Power Co. was recently burned; estimated loss of $30,000. Preparations are being made for rebuilding the plant at once.

PAONIA, COLO.—It is reported that the city proposes to establish an electric lighting plant.

SANTA FE, N. MEX.—The Santa Fe Water & Electric Co. will make extensive improvements. Frank Owen is Mgr.

SILVER CITY, N. MEX.—The Consumers' Light Co., which was granted a franchise for an electric light plant, has temporarily abandoned the project.

TACOMA, WASH. — William Welsh, Comr., has submitted to council a plan for increasing the proposed gravity water system by bringing to the city a sufficiently extra amount of water to operate an electric plant. The plant would be erected on 23d St., at estimated cost of $300,000.

KENNEWICK, WASH.—I. N. SMITH, of Lewiston, Idaho, and C. E. WOOD, of Genesee, Idaho, have been awarded a lighting franchise by the council at Kennewick.

SEATTLE, WASH.—Articles of incorporation of the Hanford Irrigation & Power Co. have been filed. E. S. McCord, C. J. Smith and M. B. Haynes are named as the incorporators. The capital stock is $250,000. It is the intention of the new company to engage in a general irrigating and electrical power business. Seattle is to be the location of the general offices. The trustees of the concern are: C. J. Smith, J. H. McGraw, W. R. Todd, J. B. Howe, M. B. Haynes, C. H. Hanford, H. K. Owens, J. A. Kerr and George A. Burch.

YREKA, CAL.—The Siskiyou Electric Power Co. has purchased water rights on the Klamath River. It is said that 50,000 additional HP. will be developed. O. G. Steele is Supt. and Ch. Engr., at Yreka.

SAN FRANCISCO, CAL.—The United Power, Water & Dredging Co. has been incorporated here with a capital stock of $75,000. The incorporators are J. A. McPherson, J. P. Moffett and M. J. Turner.

STOCKTON, CAL.—A bond election will be held to vote on issuance of $160,000 for an electric plant. R. C. Tumelty is City Engr.

PASADENA, CAL.—The city council has approved the plan of the Board of Trade here for the new lighting system for the streets of the city.

SAN DIEGO, CAL.—Hugh T. Duff, of Los Angeles, has been granted an electric lighting franchise. He will erect a $30,000 plant.

ST. JOHN, N. B.—A press report states that the city will place at the disposal of an expert engineer a sum of money sufficient to investigate the subject of the development of power at the Reversible Falls at the mouth of the River St. John, at the north end of that city. It is estimated that 20,000 HP., now going to waste, can be developed at these falls.

GLOBE, ARIZ.—The Globe Electric Light & Gas Co. has been organized by N. L. Amster, of Boston; J. N. Porter, Pres., and S. F. Sullenberger, Cashier, of First National Bank; and N. C. Cotter and D. James, the latter two being the present owners of the Globe Electric Plant, which proposes to manufacture gas and increase the capacity of the present plant. Mr. Amster is Pres. of the new company.

SANDPOINT, IDAHO.—D. W. Cassedy, of Spokane, Wash., will petition the city council for an electric light franchise and also for a franchise for a water system at Sandpoint. It is reported that T. J. Humbird, of the Humbird Lumber Co., of Sandpoint, is about to petition the city council for an electric light franchise.

TONOPAH, NEV.—The Tonopah Light & Power Co. will rebuild its lighting system, it is said. A. J. McConnell is Ch. Engr.

BRIDGES.

The names of parties awarded contracts are printed in capital letters.

SALEM, MASS.—Bids that were to have been opened Jan. 4, for the construction of the Salem and Gloucester bridges, were returned to the bidders unopened. The Commissioners voted to advertise for plans and specifications for both bridges.

WATERTOWN, MASS.—It is reported that plans are in progress for a new bridge across the Charles River at Galen St. W. F. Learned is City Engr.

FALL RIVER, MASS.—It is reported that the question of erecting a bridge at Bradford Ave. is being agitated by Mayor Coughlin.

WATERTOWN, N. Y.—It is reported that a bridge is to be built by the Rome, Watertown & Ogdensburg division of the New York Central & Hudson River Railroad Co. at Jackson St. J. S. Hustis, Watertown, N. Y., is Supt.

PEDRICKTOWN, N. J.—Plans are in progress for the new bridge here to replace the one recently washed away. Wm. Carter, Woodbury, N. J., is Engr.; Wm. Burk, Pedricktown, N. J., is Chn. Com.

SANATOGA, PA.—The contract for the new steel bridge across the Schuylkill River at this place was awarded to the CANTON BRIDGE CO., of Canton, O., for $18,100.

McKEES ROCKS, PA.—It is reported that plans are being made for the constructoin of a bridge across Chartier's Creek at this place.

NORFOLK, VA.—It is reported that the matter of erecting a new public bridge between Norfolk and Berkley, Va., is being agitated.

MANCHESTER, VA.—The contract for building the bridge over Falling Creek, near this place, was awarded to the PHOENIX BRIDGE CO., of Phoenixville, Pa.

SCOTTSVILLE, VA.—Plans have been completed for the new wagon bridge across the James River at this place. There will be four spans, each 150 ft. long. Width, 16 ft.

CEDARTOWN, GA.—Bids are asked by George E. Benedict until Jan. 13 for the construction of bridge across Big Cedar Creek.

PALMETTO, FLA.—There is a movement on foot for the erection of a bridge connecting this city with Braidentown, Fla. No definite plants have been drawn.

WHITE SPRINGS, FLA.—The bridge across the Suwanee River at this place was washed away and will be replaced at once.

MEMPHIS, TENN.—A rough draft of the proposed bridge over the tracks of the Southern Railway Co. has been prepared and submitted. J. A. Omberg, Jr., is City Engr.

CARTHAGE, TENN.—It is proposed to form a stock company at this place, capitalized at $50,000, for the purpose of erecting a bridge across the Cumberland River.

OAKDALE, TENN.—The contract for erecting eight bridges for the Cincinnati, New Orleans & Texas Railroad Co. between Oakdale and Helenwood was awarded to the AMERICAN BRIDGE CO., 42 Broadway, New York.

ELIZABETHTON, TENN.—Carter County has authorized an appropriation of $6,000 for a bridge across the Watauga River at this place.

TOLEDO, O.—An ordinance has been passed authorizing the construction of a bridge across Swan Creek at Storrs St. in this city. Charles H. Nauts is City Clk.

BYESVILLE, O.—The contract for constructing bridge across Chapman Creek at this place was awarded to the NEW JERSEY BRIDGE CO., Manasquan, N. J.

TERRE HAUTE, IND.—Bids are asked by the Board of Commissioners of Vigo County until 11 a. m., Jan. 13, for the construction of a bridge in Honey Creek Township.

RICHMOND, IND.—The contracts for constructing two bridges in Wayne County were awarded to the CENTRAL STATES BRIDGE CO.

MT. ETNA, IND.—The contract for erecting bridge across Salomonie River at this place was awarded to C. E. WALKER & CO. for $7,770.

PEORIA, ILL.—The contract for the new foot bridge at this place was awarded to J. V. MARCUS, of this city.

DUQUOIN, ILL.—The contract for the new 135-ft. bridge across the Beaucop River at this place was awarded to the DECATUR BRIDGE CO., of Decatur, Ill.

AURORA, ILL.—The subject of replacing the Fox St. bridges is being considered by Mayor Douglas, of this city.

LA CROSSE, WIS.—THE LA CROSSE BRIDGE CO., of this city, has received the contract for erecting two bridges in this county.

BRADDYVILLE, IA.—I. H. Taggart, of the Board of County Supervisors, writes us that the question of building concrete bridges and culverts is being considered. He desires all information possible regarding such structures. J. H. Abbott is Chn.

WATERLOO, IA.—Bids are asked by C. A. Rownd, County Auditor, until noon, Jan. 12, for construction of all bridges in Blackhawk County during the year 1906.

EXCELSIOR, MINN.—It is reported that a new steel bridge is proposed to replace the present wood bridge across Gray's Bay at Lake Minnetonka.

WICHITA, KAN.—It is reported that the Chicago, Rock Island & Pacific Railroad Co. will erect a new bridge across the Arkansas River here.

YORK, NEB.—Bids are asked by C. C. Baslaw, County Clk., until noon, Jan. 23, for constructing all wooden bridges in York County during the year 1906.

STANTON, NEB.—Bids are asked by Albert Pilger, County Clk., until 11 a. m., Jan. 17, for constructing all bridges in Stanton County during the year 1906.

OMAHA, NEB.—It is reported that the Union Pacific Railroad Co. will erect a new viaduct near U and W Sts., in this city.

REDFIELD, S. DAK.—The contract for erecting all bridges that may be required in Spink County during the year 1906 was awarded to the IOWA BRIDGE CO., Des Moines, Ia.

KANSAS CITY, MO.—It is reported that the Kansas City Bridge and Terminal Co. is being organized here for the purpose of constructing the bridge across the Missouri River between this city and Quindaro, Kan.

BROWNSVILLE, TEX.—It is reported that a bridge will be built across the Rio Grande River, between this city and Matamoras, Mex., by the Mexican National and the St. Louis, Brownsville & Mexico Railroad Cos.

SAN ANGELO, TEX.—The construction of a bridge across the Coucho River at Chadbourne St. is being considered by the Commissioners of Tom Green county.

PORTLAND, ORE.—Plans have been submitted to the Port of Portland Commission by J. C. Flanders, Vice-Pres. of the Portland & Seattle Railway Co., for the erection of the $1,000,000 draw bridge across the Willamette River at this place. The draw will be 460 ft. long, 60 ft. wide and 39 ft. above low water mark.

PETALUMA, CAL.—It is reported that a concrete bridge is contemplated at Bremen St. in this city.

LOS ANGELES, CAL.—Preliminary plans have been made for the new bridge across the Southern Pacific Co.'s tracks, from Buena Vista St. to Downey St., a distance of 360 ft. Cost, $270,000. H. F. Stafford is City Engr.

LEWISTON, IDAHO.—Bids are asked by J. R. Lydon, County Clk., until 11 a. m., Jan. 15, for the construction of bridge across McGuire Creek, on the road from Lewiston to Genesee.

BONAVENTURE, QUE.—It is reported that the city is considering the erection of a bridge across the Bonaventure River at this place.

BUILDINGS.

The names of parties awarded contracts are printed in capital letters.

MARBLEHEAD, MASS.—It is reported that the Board of Education of this place has decided to build a new school building.

WATERBURY, CONN.—It is reported that the congregation of the First Baptist Church is contemplating the erection of a $100,00 church. Rev. Dr. Haywood is pastor.

NEW HAVEN, CONN.—The plans of Gordon, Tracy & Swartwout, Archs., 244 Fifth Ave., New York, have been accepted by the building committee for the Connecticut Savings Bank, at Church and Crown Sts., New Haven.

BRIDGEPORT, CONN.—It is reported that Mayor Reynolds is considering the erection of a new fire station house.

ALBION, N. Y.—The contract for erecting the new school building here was awarded to P. L. GREAR, of this city, for $65,000.

BATAVIA, N. Y.—It is reported that the St. James Episcopal Church will erect a new $60,000 building here.

BROOKLYN, N. Y.—Plans for the Dime Savings Bank building to be erected at De Kalb Ave. and Fleet St., Brooklyn, have been prepared by Mowbray & Uffinger, Archs., 92 Liberty St., New York. Cost, approximately, $150,000.

The plans of Jackson & Rosecrans, Archs., 36 Union Square, New York, have been selected for the new Y. M. C. A. building at Manhattan Ave., between Meserole and Norman Aves. The building will be 4 stories, brick and stone and will cost $110,000.

NEW YORK, N. Y.—Plans were filed Jan. 9 for a 1-story bank building to be erected by the estate of John C. Duncan, 27 William st., at 204 Fifth Ave., New York. The new building will be occupied by the Lincoln Trust Co. The plot is one door north of the junction of Fifth Ave. and Broadway, and the building will have similar facades on each street. John H. Duncan, 208 Fifth Ave., New York, is Arch. Cost, $150,000.

Plans have been completed for an automobile garage at 62d St. and Broadway, New York, for George C. Boldt, Hotel Waldorf-Astoria. The new building will be of brick and stone, 105 × 106 ft. Cost, $275,000. Frank M. Andrews, 1300 Conover Bldg., Dayton, O., is Arch.

The Northwestern Realty Co., 135 Broadway, New York, will erect two 6-story brick tenement houses at 151st St. and Eighth Ave., New York. W. C. Sommerfield, 19 Union Square, is Arch. Cost, $100,000.

NEW YORK, N. Y.—John Carr, Eighth St. and Broadway, New York, will erect a 3-story brick stable at 175th St. and Park Ave., New York. Size, 95 × 125 ft. Cost, $50,000. Charles H. Peckworth, 415 Hudson St., New York, drew plans.

NEW YORK, N. Y.—Bids were opened by C. B. J. Snyder, Supt. School Bldgs., Jan. 8, for installing heating and ventilating apparatus for the addition to Public School No. 10, on 117th St., and St. Nicholas Ave., Boro. of Manhattan. Evans Almiral & Co., 281 Water St., New York, submitted the lowest bid, at $29,000.

NEW YORK, N. Y.—The contract for erecting the alteration to the 8-story telephone building at 30-34 Gold St., for the New York Telephone Co., 15 Dey St., was awarded to D. C. WEEKS & SON, 289 Fourth Ave., New York. Eidlitz & McKenzie, 1123 Broadway, New York, are Archs.

The contract for the alteration of the private school at 30 West 55th St., New York, for J. S. Kennedy, 31 Nassau St., was awarded to C. T. WILLS, 156 Fifth Ave. J. B. Baker, 156 Fifth Ave., New York, is Arch.

The contract for the reinforced concrete work for building at 10 Bridge St., New York, for C. Van Nostrand & Co., was awarded to A. MOYER, 22 Spencer Pl., Brooklyn.

Plans have been completed for a 6-story apartment house for A. Silverson, at Eighth Ave. and 154th St., New York. Geo. F. Pelham, 503 Fifth Ave., New York, is Arch.

NEW YORK, N. Y.—Plans have been completed for two 5-story brick tenement houses at Audubon Ave. and 180th St., New York, for J. Wlodar, 640 West 131st St., New York. Owner is Arch. Cost, $87,000.

Plans have been filed for five 6-story brick stores and tenement houses at Manhattan Ave. and 107th St., New York, for Falk & Fine, 235 East 10th St. Moore & Landsiedel, Third Ave. and 148th St., New York, are Archs. Cost, $220,000.

Plans have been completed for a 5-story brick apartment house at Tremont Ave., near Anthony Ave., New York, for S. Van Duzer, 31 Nassau St. Neville & Bagge, 215 West 125th St., New York, are Archs.

Henry Brown, 506 East 121st St., New York, has had plans completed for three 5-story brick tenements at 174th St. and Bathgate Ave., New York. Franklin Baylies, 33 Bible House, New York, is Arch.

NEW YORK, N. Y.—Preliminary drawings are being made for the new building for the American Express Co., 65 Broadway, New York. No further details. Henry Ives Cobb, 42 Broadway, is Arch.

Plans are in progress for new building for the Singer Mfg. Co., 149 Broadway, New York. No detailed information has been given out as to the number of stories and size. But it is reported that it will be 25 stories. Ernest Flagg, 35 Wall St., New York, is Arch.

Plans have been completed for a 4-story addition to be built to Grammar School No. 68, on 128th St., near Lenox Ave., New York. It is to be 25 × 99 ft., of brick and limestone. C. B. J. Snyder, 59th St. and Park Ave., New York, is Arch. Cost, $60,000.

Plans have been filed for two 6-story brick tenements and stores, at 99th St. and Third Ave., New York, for Sarkin & Riccardi, 301 East 107th St. S. Sass, 23 Park Row, New York, is Arch.

NEW YORK, N. Y.—Plans have been completed for a 6-story flat at 96th St., near Columbus Ave., New York, for Felt & Malakoff, 19 West 116th St. George F. Pelham, 503 Fifth Ave., New York, is Arch.

A new chapel hall will be built at 334-336 West 20th St., New York, for St. Peter's Episcopal Church. It will be 45 × 108 ft., of brick and terra cotta. Cost, $85,000. William B. Tuthill, 105 East 22d St., New York, is Arch.

Plans have been filed for two 6-story tenements for Epstein & Cohen, 8 West 114th St., New York, at 120th St. and Pleasant Ave. Bernstein & Bernstein, 24 East 23d St., New York, are Archs. Cost, $90,000.

NEW YORK, N. Y.—Bids are asked by the Board of Health, until 10 a. m., Jan. 17, for converting the present laboratory building at the Willard Parker Hospital, foot of East 16th St., Boro. of Manhattan, into a dormitory building.

NEW YORK, N. Y.—The congregation of the Westminster Presbyterian Church, 27th St., near Seventh Ave., New York, will erect a new $200,000 building on the site of the present church. Rev. John Lloyd Lee is Pastor.

J. M. & J. B. CORNELL, 26th St. and Eleventh Ave., New York, have been awarded the contract for 1,500 tons of structural steel, for building at 207-217 West 24th St. M. Reid & Co., 114 West 39th St., New York, are the general contractors. Previously mentioned.

JERSEY CITY, N. J.—Bids are asked by the New County Building Committee, of the county of Hudson, Frederick Rippe, Pres., until 2 p. m., Jan. 24, for furnishing labor and materials for the masonry, structural steel, fireproofing and water proofing, for the new court-house of Hudson county.

EAST ORANGE, N. J.—Bids are asked by John Crowell, Secy., until 11 a. m., Jan. 29, for the construction of a school building.

PHILADELPHIA, PA.—Plans have been completed for the Carnegie branch library at Vernon Park, Germantown. It will be stone structure, 69 × 121 ft. F. M. Day & Bro., 925 Chestnut St., Philadelphia, are Archs.

Plans have been completed for a church at 24th St. and Lehigh Ave., Philadelphia, for St. Columbia's congregation. Stone, one story. Cost, $225,000. Henry G. Dagit, 435 Chestnut St., Philadelphia, is Arch.

Richard Gilpin, Philadelphia Bank Bldg., Philadelphia, has been appointed Consulting Engineer for the new Free Literature Library to be erected here. Field & Medary, 1414 South Penn. Square, are Archs.

BLOOMSBURG, PA.—Plans have been prepared for a science hall for the State Normal School here. The building will be 3 stories, brick and stone, cost $75,000. F. L. Olds, Coal Exchange Bldg., Wilkes-Barre, Pa., is Arch.

BALTIMORE, MD.—Plans are being prepared by Charles M. Anderson, Arch., 333 North Charles St., Baltimore, for a 3-story addition to the Maryland Penitentiary.

CUMBERLAND, MD.—It is reported that the Interstate Trust & Guaranty Co., of this city, will erect a new modern 8-story banking and office building here.

WASHINGTON, D. C.—Bids are asked by T. B. Harris, Paym. Gen. U. S. N., Navy Dept., Washington, D. C., until 10 a. m., Jan. 30, for installing electrical apparatus at the Naval Hospital, Washington, D. C.

Plans have been prepared for an apartment house for L. E. Bruninger, at 13th and Roanoke Sts. Cost, $60,000. N. R. Grimm, 627 F St. N. W., is Arch.

Preliminary plans have been drawn for a $75,000 residence for J. B. Henderson, on 16th St. N. W., Washington. Totten & Rogers, 806 17th St. N. W., are Archs.

Bids were opened at the office of the building committee, Dept. of Agriculture, Washington, Jan. 5, for installing six electric passenger elevators in the two laboratory buildings for the United States Dept. of Agriculture, Washington, as follows: (1) Otis Elevator Co., 17 Battery Pl., New York; (2) Marine Engine & Machine Co., 126 Liberty St., New York. Total for the six elevators, (1) $24,975, (2) $29,100; to be deducted if two be omitted, (1) $7,780, (2) $9,300; to be added if safety appliance be used on six, (1) $6,000, (2) $7,800; to be added if safety appliance be used on four, (1) $4,000, (2) $5,200.

WASHINGTON, D. C.—Elliott Woods, Supt., U. S. Capitol Building and Grounds, will open bids about the middle of February for a quantity of fireproof floor construction and terra cotta partitions for the new office building of the House of Representatives. There are four floors for the fireproof construction, covering an area, it is estimated, of about 350,000 sq. ft., and a like number in the partitions. The specifications when prepared will call for four or five different systems and other necessary details.

WASHINGTON, D. C.—Bids were opened Jan. 5 at the office of the building committee, Dept. of Agriculture, Washington, for the installation of the electric wiring and conduit systems of the two laboratory buildings for the Dept. of Agriculture, as follows: (a) total of bid for electric wiring and conduit systems; (b) labor and material required for work in connection with the system of lighting and power; (c) labor and material required for work in connection with the telephone and bell wiring: National Electric Supply Co., Washington, D. C., (a) $24,000, (b) $18,281; Reis & O'Donovan, 1123 Broadway, New York, (a) $20,400, (b) $15,200; J. F. Buchanan, Philadelphia, (a) $29,900, (b) $19,950; L. K. Comstock Mfg. Co., 114 Liberty St., New York, (a) $25,239, (b) $18,300; Malcolm W. Hill & Co., Washington, D. C., (a) $27,355, (b) $18,845; Joseph McWilliams & Co., Louisville, Ky., (a) $23,076, (b) $16,242; McCay Engineering Co., Baltimore, (a) $24,812, (b) $18,202; Carl Leonard & Mural, New York, (a) $22,500, (b) $17,060; F. E. Newberry & Co., St. Louis, (a) $19,871, (b) $14,532; Peet, McAnerney & Powers, 225 Fourth Ave., New York, (a) $23,981, (b) $19,047; Watson, Flagg Engineering Co., 27 Thames St., New York, (a) $19,775, (b) $14,973; Johnston Livingston Co., 113 East 22d St., New York, (a) $24,995, (b) $17,098; Harry Alexander, Baltimore, (a) $22,000, (b) 17,340; Keller Pike Co., Philadelphia, (a) $26,367, (b) $19,000; M. Schean & Co., New York, (a) $21,400, (b) $16,000; Arthur Frantzen, Baltimore, (a) $26,484, (b) $17,008. Harry Alexander, Baltimore, Md., submitted the lowest bid for (c) at $2,914.

Bids were opened Jan. 5, at the office of the building committee, Dept. of Agriculture, Washington, for the installation of the heating, ventilating and special piping systems of two laboratory buildings for the Dept. of Agriculture, Washington, as follows: (a) total of bid for heating and ventilating and special piping systems; (b) labor and material required for installing heating and ventilating systems; (c) labor and material required for installing special piping system: Warren W. Biggs, Washington, (a) $96,916, (b) $63,414, (c) $33,502; Hubbard Heating Co., Washington, (a) $90,667, (b) $65,164, (c) $25,503; Frank Dobson, 319 East 53d St., New York, (a) $100,000, (b) $72,500, (c) $27,500; *Joseph McWilliams & Co., Louisville, (a) $96,156, (b) $64,423, (c) $31,733; Baldwin Engineering Co., 107 West 17th St., New York, (a) $114,500, (b) $72,250, (c) $42,250; Gaylord & Eitapenc, Binghamton, N. Y., (a) $92,343, (b) $67,985, (c) $24,357; A. A. Sanburn, Boston, (a) $80,285, (b) $55,578, (c) $24,707; S. Faith & Co., Philadelphia, (a) $87,700, (b) $58,000, (c) $29,700; Thomas & Smith, Chicago, (a) $91,697, (b) $57,238, (c) $34,259. *Jos. McWilliams & Co. will deduct $1,400 if awarded entire contract.

ROSSLYN, VA.—Bids are asked by Capt. A. W. Butt, Q. M. U. S. A., Quartermaster's Dept., Washington, D. C., until 2 p. m., Jan. 17, for furnishing and installing wiring, fixtures and wattmeters for electric lighting in pump house and testing plant at Rosslyn, Va.

ATKINSON, N. C.—It is reported that a new school building is contemplated by the Board of Education here.

MACON, GA.—It is reported that the subject of a large tourists' hotel is receiving some consideration by the Chamber of Commerce in this city.

ATLANTA, GA.—The plans for the College of Physicians and Surgeons are now out for figures. Bids close about Jan. 15. Morgan & Dillon, Prudential Bldg., Atlanta, are Archs.

BIRMINGHAM, ALA.—Plans are out for figures for the new depot to be erected here by the Birmingham Terminal Co. The building will be 80 × 785 ft., fireproof construction; cost, $1,000,000. P. T. Marye, Atlanta, Ga., is Arch. Bids close Feb. 1.

MOBILE, ALA.—The plans of Watkins, Hutchisson & Garvin, Archs., Mobile, Ala., have been accepted for the new Jewish Synagogue here. J. Pollock is Chn. Com.

NEW ORLEANS, LA.—Plans are in progress for four officers' quarters for the Bureau of Yards and Docks. Wood, Down & Deming, 808 17th St. N. W., Washington, D. C., are Archs.

It is reported that S. L. Weil is interested in the $250,000 apartment house on Charles St. in this city.

Plans have been completed for a 14-story hotel at New Orleans for H. Grunewald. H. C. Koch, Wells Bldg., Milwaukee, Wis., is Arch.

NATCHITOCHES, LA.—Bids were opened at the office of James Knox Taylor, Supervising Arch., U. S. Treas. Dept., Washington, D. C., for constructing U. S. post-office at Natchitoches, La., as follows: Buchanan & Gilder, Fort Worth, Tex., $75,804, time, March 1, 1907; John E. Barnes & Son, Logansport, Ind., $69,000, time as specified; Wm. Weber, Huntington, W. Va., $71,500, time as specified; King Lumber Co., Charlottesville, Va., $73,850, time as specified; F. L. Stevenson Contract Co., Dallas, Tex., $65,000, time as specified; Thomas Lovell & Sons, Denton, Tex., $69,500, time, March 1, 1907; Mankin Construction Co., Richmond, Va., $59,369; time as specified.

KNOXVILLE, TENN.—Plans have been prepared for a church for the Second Presbyterian congregation here. The new building will be one story, stone, and will cost $75,000. Isaac Pursell, 119 South Fourth St., Philadelphia, Pa., is Arch.

NASHVILLE, TENN.—It is reported that the McKendree church will be rebuilt on Church St. Cost, $75,000. No architect has been selected. Rev. E. B. Chappell is Pastor.

MEMPHIS, TENN.—It is reported that plans are in progress for a new storage warehouse in this city for the Pittsburg Steel Co., Pittsburg, Pa.

OWENSBORO, KY.—It is reported that the congregation of the Walnut St. Baptist Church will erect a new house of worship in this city. Rev. H. E. Gabby is pastor.

LOUISVILLE, KY.—Plans are in progress for a $300,000 theater here for J. M. Atherton. William Dodd and Kenith McDonald, 600 Equitable Bldg., Louisville, are Archs.

Bids are asked by Maury & Hillerich, Archs., Louisville, until noon, Jan. 15, for the construction of the Everton apartment house.

It is reported that the F. M. Kirby Co., of this city, will erect a new office building on Fourth Ave. No plans have been drawn.

CANTON, O.—Plans have been completed for the construction of the buildings for the College of the Immaculate Conception, near this city. W. P. Ginther, Akron, O., is Arch.

TOLEDO, O.—Plans are completed for the 8-room addition to the Spring St. school building here. Langdon & Hohly, 901 Spitzer Bldg., Toledo, are Archs.

BLOOMINGTON, IND.—The Board of Trustees of Indiana University has awarded the general contract for the construction of a library building to W. F. STELLWELL, of Lafayette, for $91,630. The plumbing contract to W. A. BUSSENDEN, of Bloomington; the heating contract to W. H. JOHNSON & CO., of Indianapolis, and the electric wiring contract to J. W. WICKUM, of Chicago, Ill.

CHICAGO, ILL.—The selection of an architect for the proposed library for Grant Park will be made by competition. The building may cost $2,000,000. C. W. Andrews, of the John Crerar library, is interested.

WALES, WIS.—The State Tuberculosis Commission, of Milwaukee, has purchased a site near this city for a $100,000 sanitarium. Dr. Colter, of Marinette, Wis., is interested.

DES MOINES, IA.—Bids are asked by M. W. Rowell, Q. M., until 2 p. m., Feb. 1, for constructing cavalry drill hall at Fort Des Moines, Ia.

NEW PRAGUE, MINN.—The contract for erecting the new Gothic church has been awarded to E. A. DALY, of St. Paul, Minn.

PERHAM, MINN.—Bids are asked by C. C. Dirkes, Recorder, until 8 p. m., Feb. 1, for the construction of a new town hall in Perham, Minn.

NORTHFIELD, MINN.—Bids are asked by P. M. Glasoe, Chn. Com., until 1 p. m., Feb. 2, for the construction of chapel building for St. Olaf's College, Northfield, Minn. Thori, Alban & Fisher, 508 Chamber of Commerce Bldg., St. Paul, Minn., are Archs.

OMAHA, NEB.—Bids are asked by W. H. Tucker, Treas., until 11.30 a. m., Jan. 22, for constructing conservatory and three officers' quarters at Battle Mountain Sanitarium.

KANSAS CITY, MO.—The Westport school board is considering the erection of a $100,000 training school.

KANSAS CITY, MO.—It is reported that plans are completed for the [illegible] of a 4-story vitrified brick building for the Union Bank Note Co., at Tenth and [illegible] Sts., Kansas City. L. G. Middaugh, [illegible] City, is Arch.

LITTLE ROCK, ARK.—It is [illegible] that the $150,000 appropriation for [illegible] new city hall here has been approved [illegible] Mayor Lennon.

SAN ANTONIO, TEX.—Plans [illegible] been completed for the construction [illegible] addition to St. Joseph's Hospital. Cost, $75,000. Alfred Giles, San Antonio, is Arch.

EL PASO, TEX.—It is reported that the Central Realty & Amusement Co. [illegible] this city will erect a new $200,000 theater [illegible]. L. M. Crawford is Pres.

DENVER, COLO.—It is reported that Bennett & Meyers will erect a [illegible] hotel on 16th St. in this city.

SEATTLE, WASH.—The plans [illegible] the proposed armory building have been approved by the armory board and bids will be taken soon. Cost, $80,000.

OAKLAND, CAL.—Plans have been completed for a 5-story marble and [illegible] bank building on San Pablo Ave. for the First National Bank. D. H. Burnham & Co., 1417 Railway Exchange Bldg., Chicago, Ill., are Archs. Cost, $300,000.

BERKELEY, CAL.—The Board of Education of this city has accepted the plans of William H. Wharff, Arch., 2718 Fulton St., Berkeley, for the new $50,000 school building.

GREELEY, CAL.—It is reported that additional buildings will be erected at the State Normal school, at a cost of $200,000. Z. Snyder is Pres.

TORONTO, ONT.—It is reported that plans have been prepared for a building for the Dept. of Physics at the University of Toronto. Approximate cost, $225,000.

WATER SUPPLY—IRRIGATION.

The names of parties awarded contracts are printed in capital letters.

SPENCER, MASS.—Nathan C. Craig, Engr., has made a report to the selectmen urging the extension of the water system at an estimated cost of $10,000.

ALBANY, N. Y.—Bids are asked until 3 p. m., Jan. 17, for construction of an addition to the water system at the Rochester State Hospital, Rochester. T. E. McGarr, Secy. State Comn. in Lunacy. (Advertised, Engineering News.)

MOUNT VERNON, N. Y.—Citizens are considering purchase of the plant of the Interurban Water Co. and operating same as municipal property. Edward F. Brush is Mayor.

NEW YORK, N. Y.—Bids are asked by William B. Ellison, Comr. Water Supply, Gas and Electricity, until 2 p. m., Jan. 19, for furnishing corporation cocks, hydrants, gate valves and for furnishing and laying a 12-in. subaqueous flexible joint main.

NEW YORK, N. Y.—It is stated by local papers that bids will soon be asked for about 13,000 tons of various sized pipe and 450 tons of special castings. W. B. Ellison is Comr. Water Supply, Gas and Electricity.

NEW YORK, N. Y.—Bids were opened Dec. 28 for furnishing and laying water mains in various streets in Boro. of Richmond. On two contracts James P. Graham, Bath Beach, L. I., N. Y., was lowest bidder, at $50,572 and $117,297; and on the third, Clinton Beckwith, 49 West 27th St., New York, was lowest bidder, at $131,600.

SENECA FALLS, N. Y.—It is reported that the legislature will be asked to legalize the committee which will have charge of the new municipal water-works here in order to advance the construction of the same.

SHERBURNE, N. Y.—Town will issue $10,000 of bonds for water-works improvements.

TROY, N. Y.—Bids for construction of a municipal filtration plant have been rejected by board of contract and supply. Noted on Dec. 28.

NEWFOUNDLAND, N. J.—See under **Sewers.**

BAYONNE, N. J.—It is reported that bids are asked until Jan. 16 for laying a 16-in. water main. F. W. Dalrymple, City Engr.

PERTH AMBOY, N. J.—Bids were opened Dec. 27 for the construction of a 25-ft. suction well at Runyon as follows: Climax Construction Co., New York, $7,954; Moran & Sutton, New Brunswick, N. J., $7,974; N. A. K. Bugby, Trenton, N. J., $8,214; Henderson Bros., this city, $9,494; Crouse Construction Co., this city, $11,229.

BALTIMORE, MD.—Tentative plans have been made for the construction of a 20,000,000,000-gallon reservoir and a 75-ft. dam about two miles above the Loch Raven dam. The cost is estimated at between $5,000,000 and $10,000,000. B. T. Fendall is City Engr.

WASHINGTON, D. C.—Contract has been awarded by the Commissioners of the District of Columbia for a vertical triple expansion crank and fly-wheel condensing pumping engine, to the ALLIS-CHALMERS CO., Milwaukee, Wis., lowest bidder, at $74,800, original bid in accordance with specifications. Noted on Jan. 4.

FRANKLIN, VA.—It is reported that $40,000 of bonds for water and sewer purposes will be sold. W. T. Pace is Recorder. C. E. Vaughan is Chn. Com.

FORT FREMONT, S. C.—Bids are asked by the Quartermaster here until 11 a. m., Feb. 3, for the construction of an extension of the water system.

ST. MATTHEWS, S. C.—The city contemplates holding an election to decide the question of issuing $20,000 in bonds for the construction of water-works and an electric light plant.

COLUMBUS, GA.—It is stated that after the selection of a suitable source of supply the city will build a complete new water-works system.

COLQUITT, [illegible]—It is reported that $6,000 of water-works bonds have been sold.

SAVANNAH, GA.—Reports state that $25,000 w[illegible] spent in improvements to water system.

APALACHICOLA, FLA.—This city has sold $50,000 of [illegible] for water-works and sewers, and contra[illegible] will be let as soon as plans have been [illegible]red and approved. Arthur Pew, of A[illegible] Ga., is Engr. M. Brash is Secy. Bd. [illegible] Works.

GAINESVILLE, FLA.—A committee has been appointed by the aldermen to take up the question of enlarging the water mains here. Geo. [illegible] Broome is Pres. Bd.

ARCADIA, FLA.—Plans and specifications are being [illegible]red for construction of water-works. The supply will be obtained from a[illegible] artesian well and a 50,000-gallon [illegible] tank will be built, it is reported. [illegible] Youmans is Chn. Bd. Pub. Works.

LAKE CITY, FLA.—It is stated that the city will install water-works and electric light plant. J. C. Sheffield is Chn. Bd. Pub. Works.

KNOXVILLE, TENN.—The controversy between the city of Knoxville and its water company as to the right of the city to establish its own water-works has been decided by the court in favor of the city. S. J. Moreland is City Engr. The city will erect a new municipal water-works plant, at a cost of $750,000. Plans have been prepared by Owen Ford, Engr., of St. Louis, Mo. COOK & SONS, of Kansas City, Mo., have been awarded the contract.

CINCINNATI, O.—Bids are asked until Jan. 30 for the purchase of $500,000 of water-works bonds. August Herrman is Pres. Bd. Trustees.

EAST LIVERPOOL, O.—Bids were opened Dec. 29 for laying a 16-in. water main, but owing to the fact that there will be several hundred feet more pipe required than was specified, the contract was not awarded and new bids probably will be asked.

VANWERT, O.—It is said that the Cincinnati Northern Railroad is considering a proposition to lay a pipe from the Maumee River to Vanwert to supply water for its shops. W. D. Williams is Ch. Engr., at this place.

SAGINAW, MICH.—George W. Fuller has prepared estimates on improvements to the water system, and recommends the erection of a 12,000,000-gallon filtration plant and pumping station. Estimates have been given on both consolidated and separate plants, one for each side of the river. On the consolidated plant he figured a saving of $12,000 per annum for the city. For separate plants he estimated these costs: Construction, east side, $150,650; west side, $85,100; total, $235,750. Operation per annum, east $14,250, west $8,680. It is figured that the total cost of filtering 12,000,000 gallons daily in separate plants would be $34,717 per annum. By the consolidation plant he placed the construction cost at $213,900 and the operation at $19,140 a year, and an estimated cost per annum of filtering 12,000,000 gallons at $29,835.

MUSKEGON, MICH.—A special election will be held Jan. 29 to vote on the proposition to construct a water and light plant, at cost of $40,000.

EAST MOLINE, ILL.—Town has favorably voted on question of water-works construction and $35,000 of bonds will be issued.

JOLIET, ILL.—It is stated that city will purchase a 3,000,000-gallon pump as well as enlarge the boilers and pumping station.

MONMOUTH, ILL.—Bids are asked until 3 p. m., Jan. 15, for furnishing and installing a pumping engine with a maximum capacity of 40,000 gallons per hour. C. E. Connell, Chn. Water Com.

ST. CHARLES, ILL.—Bids are asked until Jan. 15 by Henry Roehlk, Secy. Bd. Local Improvements, for construction of a water-works system.

WHITEHALL, ILL.—C. W. Brown, Engr., is surveying in connection with the construction of the auxiliary reservoir here.

PORT WASHINGTON, IA.—City will sell on Jan. 16 $75,000 of bonds for water-works and electric lighting. W. A. Tholeu is City Clk.

BELLE PLAINE, IA.—The citizens are reported to have voted to construct water-works; probable cost, $30,000. The Iowa Engineering Co., Clinton, is Engr.

GLENWOOD, IA.—It is stated that Legislature will be asked to appropriate $60,000 to provide for the construction of a new water system for the state institution for feeble minded at this place.

DULUTH, MINN.—The citizens will vote upon the issuance of $375,000 of bonds for the extension of water and gas mains. T. F. McGilvray is City Engr.

VERNON CENTER, MINN.—We are informed that the citizens have voted in favor of constructing a water system as noted on Dec. 14. Miles Porter is Village Pres.

ST. LOUIS, MO.—Bids are asked until Jan. 19 by A. J. O'Reilly, 300 City Hall, for furnishing and delivering water pipes, special castings, stop valves and fire plugs.

FAYETTE, MO.—City has purchased site for water-works and construction will be started soon.

SPRINGFIELD, MO.—A plan is being considered by the council for the purchase of the Springfield water-works plant at $700,000. It is probable that a special election will be ordered soon to vote on a bond proposition.

BALLINGER, TEX.—City has voted to issue $1[illegible] of bonds for water-works improvements.

SHERMAN, TEX.—Charles E. Haydon, City Engr., has prepared plans and specifications for a 1,000,000-gallon reservoir. It will be built largely of concrete and cost about $[illegible]

WYNNEWOOD, IND. T.—The city will vote Jan. [illegible] on a proposition to issue bonds for a system of water-works.

OKLAHOMA CITY, OKLA.—We are advised that Burns & McDonnell, Kansas City, Mo., may be appointed engineers in connection with the $225,000 water system to be built. W. C. Burke is City Engr. Noted on Dec. 14.

DENVER, COLO.—The city will erect a new pumping station at City Park to cost $10,000 and which will contain two pumps, two boilers and other machinery costing $19,693. J. B. Hunter is City Engr.

GREELEY, COLO.—Swift & Co., Chicago, Ill., proposes to extend the Poudre Valley ditch, which is 16 miles long and is supplied by flood waters, from Wellington in Larimer County to irrigate land in the vicinity of Pierce, Colo., and 27,000 acres of land 22 miles east of Greeley, near Crow Creek, which they, it is said, will purchase. To increase the supply of water in the ditch a tunnel will be built through the mountains 60 miles above Fort Collins, in order that the Laramie River may be tapped and its waters turned into the Poudre Valley ditch. They have purchased land in the vicinity of Fort Collins, Colo, to build laterals and reservoirs, a complete system of which is a part of the proposed scheme.

ROSWELL, N. MEX.—R. M. Jones has estimated the cost of a water system for this city, including a pumping station and 75 hydrants at $70,950.

BURLINGTON, WASH.—A. L. Morris, representing Portland, Ore., capitalists, has been granted a franchise to install a water system here.

PRESCOTT, WASH.—Bids were submitted for the proposed water system, as follows: G. H. Sutherland & Co., $9,699.99; James C. Bread, $9,000; National Pipe Co., $9,999.51; R. D. Gould, $10,005; Hines-Utter Co., $10,667.35. As the lowest bid exceeded the estimate of Engineer Weile by $2,000, all were rejected, and new bids will probably be called for.

PUYALLUP, WASH.—The town has offered to the Board of State Land Commissioners a bond issue of $33,000, the proceeds of which are to be utilized in the construction of a gravity water system.

RITZVILLE, WASH.—J. J. JOYCE, of this city, has been awarded the contract for furnishing 6-in. water mains at $8,585.

SEATTLE, WASH.—Bids were opened Dec. 30 for furnishing and laying water mains in various streets. The contract was awarded to BELL & PRICE, Marion Bldg., at $22,345. Other bidders were Stirrat & Goetz, Bailey Bldg., at $23,712, and the International Contract Co., New York Bldg., at $23,914.

WALLA WALLA, WASH.—Council has passed resolution to call a special election on Jan. 30 to vote on issuance of $250,000 of bonds for water-works.

McMINNVILLE, ORE.—Bids are asked until 7.30 p. m., Feb. 5, for construction of water-works system. H. S. Maloney, Clk. Water Com.

LEMONGROVE, CAL.—The contract for a pipe line from the San Diego Flume Co.'s dam to the Lemongrove reservoirs has been let to the STANLEY CONTRACTING CO., of this city. The total cost of the work will be about $12,000.

LOS ANGELES, CAL.—Frank H. Olmsted, Engr., whom council employed to estimate the cost of bringing water from the Owens River, has reported that $36,824,669 will be required. Six years is the estimated time for construction.

SAN DIEGO, CAL.—Bids were opened Dec. 28 for furnishing pipe and supplies. For pipe the Stanley Contracting Co., San Francisco, was lowest bidder, at $27,483. Other bidders were: Kindler & Julian, San Diego, $31,793; Williams & Belser, San Francisco, $29,897; National Wood Pipe Co., Los Angeles, $32,100; Stansbury & Powell, Los Angeles, $30,899. For cast iron specials the contract was awarded to the STANDARD IRON WORKS, San Diego, at $2.95 per cwt.; for gate valves the contract was awarded to the J. D. HOOKER CO., Los Angeles, at $683; and for cast iron pipe the contract was awarded to the WESTERN METAL SUPPLY CO., San Diego, at $37.95 per ton.

PACIFIC GROVE, CAL.—The Pacific Improvement Co. is to expend $300,000 in the construction of an impounding dam in the Carmel Valley for the purpose of saving the flood waters of the Carmel River. A 22-in. pipe will be laid from the dam to convey the water to the other reservoirs of the company for distribution in Monterey, Pacific Grove and other places.

TROY, IDAHO.—Town has voted in favor of issuing bonds for the installation of a water system.

AURORA, ONT.—Citizens have voted to raise $10,000 for water-works improvements.

SEWERAGE.

The names of parties awarded contracts are printed in capital letters.

SAXONVILLE, MASS.—Town is considering a petition to legislature to obtain a sewer system. J. R. Entwistle is Chn. Com.

BRIDGEPORT, CONN.—A trunk sewer in Noble Ave., at a cost of $15,000, has been planned by sewer committee of council. Wm. Starr is City Engr.

FULTON, N. Y.—City will sell $5,000 of sewer bonds. Joseph H. Young is City Engr.

ROCHESTER, N. Y.—Emil Kuichling, Engr., 52 Broadway, New York, is preparing plans for a sewage disposal system in this city.

NEWFOUNDLAND, N. J.—A plan has been submitted by Mr. R. Sherrerd, Engr., Newark, N. J., to the town committee for a sewer and water system. Estimated cost, $75,000.

WOODSTOWN, N. J.—The Woodstown Sewer Co. is having plans prepared for a sewage disposal plant.

TRENTON, N. J.—Council has passed ordinances providing for a number of new sewers. C. C. Haven is City Engr.

PATERSON, N. J.—Allen Hazen, Engr., 220 Broadway, New York, will prepare plans for a sewer system here. H. J. Harder is City Engr.

PLAINFIELD, N. J.—Council has passed an ordinance to establish a sewer system and pumping stations on the south side, at an estimated cost of $55,000. Andrew J. Gavett is City Surveyor.

ALTOONA, PA.—We are advised that a reinforced concrete storm sewer, about 1,700 ft. in length, is projected, at an estimated cost of $30,000.

CRAFTON, PA.—Bids are asked until Jan. 12 for the construction of a brick sewer. Brown & Layton are Engrs. W. O. H. Elliott, Boro. Clk.

PHILADELPHIA, PA.—Plans for building two concrete sewers on Market St. have been approved by the board of highway commissioners. A. Lincoln Acker is Dir. Pub. Works.

WESTCHESTER, PA.—Snow & Barbour, Engrs., 1120 Tremont Bldg., Boston, Mass., have prepared plans for a complete sewer system for this town.

FRANKLIN, VA.—See under Water Supply.

PETERSBURG, VA.—Reports state that the city has awarded the contract for excavating and laying of pipes to the SOUTHERN CONSTRUCTION CO., Norfolk, Va.; and to STRATTON & BRAGG, the contract for furnishing pipes in connection with the sewer system, for which $75,000 has been appropriated.

MILLEDGEVILLE, GA.—Bonds will be sold on Jan. 10 to raise $20,000 for sewer construction. A. L. Moore is Clk. Sewer Comn.

APALACHICOLA, FLA.—See under Water Supply.

CINCINNATI, O.—Bids are asked until noon, Jan. 25, for constructing sewers in various streets. George F. Holmes, Clk. Bd. Pub. Service.

Sewer contracts have been let as follows: In Waldon St. and Eastern Ave., to J. B. WASHBURN, at $3,985; in McMillin St. and Humboldt Ave., to McCARTHY BROS., at $16,015.

COLUMBUS, O.—We are advised that the contract for the construction of several sewers has been awarded to LOUIS LIND, of this city, at $5,243. Julian Griggs, Ch. Engr., Dept. Pub. Service.

CLEVELAND, O.—Bids are asked until noon, Jan. 16, for the construction of sewers in various streets. W. J. Springborn, Pres. Bd. Pub. Service.

Bids were opened Dec. 21 for constructing a sewer in Ansel Ave. from Doan St. to Talbot St. as follows: Wm. Lehman, $12,127; John A. Wagner, $14,194; A. F. Helm, $14,562; the W. J. Townsend Co., $15,271; the James Duff Construction Co., $16,241; C. Burkhardt, $16,558; Beers & Doolittle, $16,649; and the Northern Ohio Paving & Construction Co., $22,560.

MOLINE, ILL.—Local press reports state that city will expend $37,000 for a sewer system in the Fifth Ward. Clark G. Anderson is City Engr.

FAIRMONT, MINN.—Bids are asked unitl Jan. 29 for the construction of a sewage disposal plant, according to plans prepared by A. Marston, Engr., Ames, Ia. E. L. Lewis, City Clk.

MANKATO, MINN.—A contract for constructing a sewer in South Broad St. has been awarded to A. BASHAW at about $3,700.

JOPLIN, MO.—It is reported that the question of constructing a storm sewer, probably of concrete, is under consideration. The matter of issuing $100,000 bonds for same will probably be brought before the citizens early this year. C. W. Lyon is Mayor.

TACOMA, WASH.—Council has passed resolution providing for the construction of sewers in Local Improvement Dis. 154, according to plans and specifications to be prepared by Frank L. Davis, City Engr. Estimated cost is $9,123.

SEATTLE, WASH.—Contract has been awarded to McADAM & CANNON for construction of sewer in Washington St., for $6,357; and for similar work in 25th Ave. to KROGH & JESSEN, at $3,606.

SPOKANE, WASH.—Board of public works has recommended that sewer be laid in Dist. 1 during the coming year. Estimated cost of improvement is $31,207. A. F. Gill is City Engr.

NORTH YAKIMA, WASH.—Bids are asked until Jan. 15 for the purchase of $48,000 of main trunk sewer bonds. J. A. Brooker, City Clk.

PORTLAND, ORE.—Council has passed resolution providing for construction of a sewer in Oak St., at an estimated cost of $6,518. Charles Wanzer is City Engr.

SAN FRANCISCO, CAL.—Construction of sewers in San Jose, Onondaga and Ocean Aves., at a cost of $20,000, is contemplated by the Board of Works.

HEALDSBURG, CAL.—City trustees have appointed committee to investigate construction of outfall sewer and sewer farm.

NAMPA, IDAHO.—Claude Duval, City Clk., writes us that city is desirous of corresponding with firms constructing septic tanks and sewer beds. $5,000 is available. (Advertised, Engineering News.)

HAMILTON, ONT.—City has voted in favor of raising $20,000 to be expended on construction of a storm sewer system.

MONTREAL, QUE.—It is stated that new sewers will be constructed in the Fifth Ward sewer district, at a cost of $37,000. John R. Barlow is City Surveyor.

VANCOUVER, B. C.—$15,000 will be expended by the city for a new sewer system, it is reported.

GARBAGE DISPOSAL.

The names of parties awarded contracts are printed in capital letters.

PHILADELPHIA, PA.—THE PENN REDUCTION CO. has been awarded the contract for disposal of garbage in this city for the year 1906, at $399,750.

LEXINGTON, KY.—The following bids were received Jan. 4 for the erection of a 50-ton garbage crematory: Dixon Garbage Crematory Co., Toledo, O., Proposal No. 1, $12,610; Proposal No. 2, $11,644; Proposal No. 3, $11,999; Proposal No. 4, $11,035. Decarie Mfg Co., Minneapolis, Minn., Proposal No. 1, $20,600; Proposal No. 2, $21,960; Proposal No. 3, $19,640; Proposal No. 4, $20,842. Lewis & Kitchen, Chicago, Ill., Proposal No. 1, $12,870; Proposal No. 2, $13,785; Proposal No. 3, $18,750; Proposal No. 4, $19,875. Lester-Vanderlip Furnace Co., New York, $16,000; Morse-Boulger Destructor Co., New York, $15,800; George H. Pierson, New York, $18,000; National Equipment Co., St. Louis, Mo., $22,000; Smead & Co., Cincinnati, O., $5,650; Sanitary Engineering Co., New York, $14,217; Sanitary Reduction & Construction Co., Boston, Mass., $35,000; Engel Crematory Co., Des Moines, Ia., on Royalty.

HUNTINGTON, IND.—The council is reported to be considering the construction of a garbage reduction plant. H. H. Wagoner is City Engr.

STREETS AND ROADS.

The names of parties awarded contracts are printed in capital letters.

BOSTON, MASS.—A communication has been sent to the Board of Aldermen by the street commissioners regarding a new entrance to the city through Dorchester and South Boston. The plan shows the widening of Dorchester Ave. from Atlantic Ave. to West Seventh St. and the continuing of the new roadway over the old railroad bed and private land to King Sq., Neponset. One plan shows the cost of construction to be $1,800,000 and another $1,960,000.

HARTFORD, CONN.—F. L. Ford, City Engr., has prepared plans for abolishing the Garden St. grade crossing, raising the grades of adjacent streets and opening a new highway from Church and Spruce Sts. to Garden and Sargeant Sts.

BUFFALO, N. Y.—Bids on three street paving contracts were opened Dec. 29. For the paving of Ruhland Ave. from Sycamore St. to Walden Ave., Henry P. Burgard was low bidder at $3,200, and was also low bidder at $5,000 on the paving of Northampton St. from the Belt Line tracks to Kehr St. The Barber Asphalt Co., 17 Battery Pl., New York, was low bidder at $11,105 for the paving of Metcalfe St. from Clinton St. viaduct to Howard St.

BROOKLYN, N. Y.—Bird S. Coler, Boro. Pres., has asked for an appropriation of $2,500,000 to pave the streets of the borough with asphalt, replacing the cobble pavement.

NEW YORK, N. Y.—It is stated that specifications are now being prepared by Geo. R. Olney, Ch. Engr., Bureau of Highways, for the improvement of Seventh Ave., from 110th to 153d Sts., by paving same with asphalt block, about 91,500 sq. yds., at a cost of about $262,000. Bids probably will be called for in February.

ROCHESTER, N. Y.—Reports state that ordinances have been passed for the paving of three streets, to cost about $17,500. E. A. Fisher is City Engr.

NIAGARA FALLS, N. Y.—Plans have been prepared for paving portions of Eleventh St. and Highland Ave. The cost is estimated at $35,564, and bids will be asked in a short time. W. W. Read is City Engr.

ATTICA, N. Y.—The board of supervisors of Wyoming county is taking steps for the improvement of the highway extending across that county through the towns of Perry, Warsaw, Orangeville and Sheldon, a distance of 24 miles.

HOBOKEN, N. J.—Ordinances have been passed for the improvement of Clinton and Adams Sts. R. T. Dana, 15 William St., New York, is Boro. Engr.

JERSEY CITY, N. J.—Bids were opened Jan. 9 for work in connection with the opening of Wilkinson Ave. and contract was awarded to JOHN NOLAN, 108 Bergen Ave., Jersey City, at 99% of standard of cost.

NEW BRIGHTON, PA.—The contract for paving a section of Eleventh Ave. was awarded to J. G. MAGUIRE.

WASHINGTON, D. C.—The office of public roads inquiry, Department of Agriculture, has issued a report showing the extent of government encouragement in the building of country roads. In the year 1905 21 roads were built by the government in different sections of the country. It is the purpose of the department to build the best roads possible out of the available material. In the roads built, stone, shale, burnt clay, sand clay, shell, gravel and marl were used. A comparative statement of cost is given, showing that macadam roads have a maximum cost of 98 cts. and an average cost of 55 cts. per sq. yd.; sand and clay roads cost 9½ cts., burnt clay 20 cts., and shell 34 cts. per sq. yd. Of the object lesson roads built, three were in Ohio, one in Illinois, three in Missouri, one in Kansas, two in Washington, one in Texas, one in Louisiana and seven in Florida. In the Mississippi delta the lack of suitable road building material has attracted much attention to the problem there. It is believed that it is to be solved by the burnt clay or "gumbo" process, which is described in detail in the report. A road of this character was constructed in Clarksdale, Miss., with such success that the county board has appropriated $250,000 to continue the work. To build up the engineering corps of the department, the plan has been adopted of employing each year a number of graduates of engineering schools, at $50 per month and field expenses, for one year, after which they may be promoted. Complete statistics as to the cost of roads in each county in the country are being prepared, and will be available during the year.

The District Commissioners have approved the extension of Massachusetts Ave. from Wisconsin Ave. to the District line, and the extension as far as Nebraska Ave. is recommended to take effect immediately.

NEWPORT NEWS, VA.—City has voted to petition Legislature to authorize issuance of $100,000 of bonds for street paving here. W. T. Brooke is City Engr.

SUFFOLK, VA.—We are advised by Col. J. H. Macleary, Chn. St. Com., that the town will petition legislature for permission to issue $150,000 of bonds for paving purposes.

JACKSONVILLE, FLA.—Bids are asked until Jan. 22 for paving about 1,360 sq. yds. and for about 708 lin. ft. of stone curbing. P. A. Dignan, Chn. Bd. Pub. Works.

MOBILE, ALA.—Council has appropriated $9,000 for repaving with brick 3,683 sq. yds. on Water St. and 600 sq. yds. of asphalt patching on adjacent streets. J. N. Hazelhurst is Ch. Engr. Bd. Pub. Works.

GRENADA, MISS.—H. L. KEY, of Norfolk, Va., has been awarded a contract for constructing 100,000 sq. ft. of granolithic sidewalks. C. B. Bolton is City Engr.

NASHVILLE, TENN.—A committee has been appointed by the Chamber of Commerce to further the project of constructing a boulevard from Belle Meade to the National Cemetery. Maj. A. W. Wills is Chn.

CINCINNATI, O.—Bids were opened Dec. 27 for paving Josephine St. with bitulithic and for paving East Third St. with granite block. Henkel & Sullivan, Bodman Bldg., were lowest bidders for the former at $12,412, and William Fogerty, 2550 Burnett St., was lowest bidder for the latter at $12,692.

COLUMBUS, O.—Julian Griggs, Ch. Engr. Dept. Pub. Service, writes us that the following contracts have been awarded: For paving Oak St., to A. G. PUGH, Columbus, O., at $13,919; for paving Front St., to the CLEVELAND TRINIDAD PAVING CO., Cleveland, O., at $46,902; for paving Walnut St., to N. B. ABBOTT, Columbus, O., at $6,083; for paving Harrison Ave., to the CLEVELAND TRINIDAD PAVING CO., at $3,893; for paving 22d St., to GEIGELE & GARNES, Columbus, O., at $9,310; for paving Second Ave., to the CLEVELAND TRINIDAD PAVING CO., at $6,932; for paving Heyl Ave., to FRANK J. FISHER, Columbus, O., at $8,776; for paving 17th Ave., to W. E. SCHWARTZ, Columbus, O., at $3,621; for paving Inka Ave., to W. E. SCHWARTZ, at $7,965; for paving Worthington St., to H. J. SHAW, Columbus, O., at $5,085; for paving West Park Ave., to the CLEVELAND TRINIDAD PAVING CO., at $16,812; for paving McMillen Ave., to H. J. SHAW, at $6,558; for paving 18th Ave., to W. E. SCHWARTZ, at $9,514; for paving Henry St., to H. J. SHAW, at $8,757; for paving Waldeck Ave., to the CLEVELAND TRINIDAD PAVING CO., at $10,480; for paving Sixth St., to the CLEVELAND TRINIDAD PAVING CO., at $3,867.

MICHIGAN CITY, IND.—Bids were opened Dec. 29 for macadamizing the Weller Road in Center Township and the Brown Road in Michigan Township. The contract for the former was let to JOHN WILHELM, of Laporte, Ind., at $8,878; and W. B. HUTCHINSON & CO., of this city, were awarded the Michigan Township contract at $5,503.

INDIANAPOLIS, IND.—It is reported that the Board of Works has awarded a contract to the WESTERN CONSTRUCTION CO. for the repair of asphalt and vulcanite pavements during the year 1906. The prices were as follows: Skim coat at 74 cts. per sq. yd., resurface at $1.30 per sq. yd., and new concrete base and surface at $2.10 per sq. yd.

ROCKVILLE, IND.—Bids are asked until Feb. 5 by the Commissioners of Parke County for grading, etc., of public roads in Liberty and Washington townships. Henry Grubb, County Auditor.

WINCHESTER, IND.—C. C. Yunker, City Engr., informs us that bids are asked until Jan. 25 for paving about 31,000 sq. yds. with brick.

TRAVERSE CITY, MICH.—A resolution has been passed by council providing for pavement of Union St. W. R. Caldwell is City Engr.

WICHITA, KAN.—R. M. Dorr, City Clk., is reported to have stated that the contract for paving St. Francis Ave. has been awarded to WM. F. HALL, of Clinton, Mo., at $1.65 per sq. yd. for 8,030 sq. yds. paving and 40 cts. per cu. yd. for 3,233 cu. yds. excavating.

TOPEKA, KAN.—Council has passed resolution favoring paving of Kansas Ave. with asphalt. S. A. Swendson is Chn. Com. Jas. F. McCabe is City Engr.

KANSAS CITY, MO.—Contracts have been awarded for the repair of pavements as follows: On portions of four streets, to the ECONOMIC ASPHALT REPAIR CO., at 90 cts. per sq. yd.; on portions of two streets, to the BARBER ASPHALT CO., New York, at 90 cts. per sq. yd.; on portions of five streets at 87 cts. per sq. yd., to the ECONOMIC ASPHALT REPAIR CO.

ST. LOUIS, MO.—Paving contracts have been awarded as follows: BARBER ASPHALT PAVING CO., 114 Liberty St., New York, $6,480; J. E. PERKINSON, $36,207; HEMAN CONSTRUCTION CO., $49,926; FRUIN & COLNON, $44,825; FRED. HOFFMAN & CO., $57,435; W. R. BUSCH CONSTRUCTION CO., $27,746; M. HANICK, $6,763; W. H. REDEMEYER, $6,111; SKRAINKA CONSTRUCTION CO., $12,277; GRANITE BITUMINOUS PAVING CO., $13,756.

CLEBURNE, TEX.—H. D. McCOY has been awarded a contract for 68,000 sq. yds. of paving, at about $15,000, it is stated.

DALLAS, TEX.—Council is considering the improvement of three streets at estimated cost of $100,000. E. L. Dalton is City Engr.

LAWTON, OKLA.—Bids are asked until 2 p. m., Feb. 1, for the construction of an improvement of the Comanche County Courthouse Sq., involving about 3,500 cu. yds. of excavation, 21,800 sq. ft. of concrete walks, concrete coping, curbs, etc. Chas. E. Gordon, Engr., U. S. Geological Survey.

PUEBLO, COLO.—Council has been asked to pave a number of streets with asphalt. Hiram Phillips is Engr.-in-Charge of paving.

SEATTLE, WASH.—Council has passed resolution providing for the improvement of Seventh Ave. from Pike to Madison St., by regrading same and paving with vitrified brick on concrete foundation from Pike to Union, and with sandstone blocks on concrete foundation from Union to Spring St. R. H. Thompson is City Engr.

County Surveyor Valentine has been instructed by county commissioners to commence survey for a permanent boulevard between here and Tacoma. Work on the Seattle-Tacoma boulevard is the King county portion of the highway that Good Roads Association is advocating as beginning of pike to run from British Columbia to borders of Mexico. Noted on Jan. 4.

COLVILLE, WASH.—L. L. Tower and W. M. Manning have made surveys for the location of the new state road from Orient eastward to Northport, a distance of over 20 miles.

SEATTLE, WASH.—Bids were opened Dec. 30 for paving Westlake Ave. with asphalt and contract was awarded to the BARBER ASPHALT PAVING CO., 612 Mutual Life Bldg., at $34,586 and 3½ cts. per sq. yd. per year for ten years maintenance.

The contract for grading, concrete walks and water mains in 19th Ave. and other streets has been awarded to the SPARGER CONCRETE CO., at $14,845. WAGNER & HARVEY have been awarded the contract for constructing concrete sidewalks on 37th Ave. at $4,378.

OAKLAND, CAL.—The contract for macadamizing portions of four streets has been awarded to the BLAKE & BILGER CO.

SANTA MONICA, CAL.—A committee has been organized to promote the construction of a boulevard between Ocean Park and this city. W. R. Wheat is Pres.

BARRIE, ONT.—Town will vote on issuance of $8,500 of bonds for street and sidewalk improvement.

MANUFACTURING PLANTS.

The names of parties awarded contracts are printed in capital letters.

BELFAST, ME.—It is reported that Leonard & Barrows will erect a 4-story addition to their shoe factory here.

PITTSFIELD, MASS.—It is reported that plans are in progress for the construction of a large brass and iron foundry in this city for the Stanley Electric Co.

WATERBURY, CONN.—The mason contract for the new factory building for the French Mfg. Co. was awarded to CHATFIELD & CHATFIELD, of this city. The owners are in the market for a 25 HP. vertical engine and a 30 HP. vertical boiler.

TORRINGTON, CONN.—It is reported that the Standard Co., of this place, will erect a new plant separate from the Excelsior Needle Co. About four acres of ground have been purchased for a site.

WINSTED, CONN.—It is reported that the Gilbert Clock Co., of this city, will erect a new factory here.

COLLEGE POINT, N. Y.—A site has been selected near Seventh Ave. and 13th St. for the erection of a large factory for the manufacture of automobiles and motor boats. C. D. Raynor is Pres.

CALEDONIA, N. Y.—The Caledonia Marl & Lime Co. has had plans completed for two new buildings to replace those destroyed by fire. The buildings will be frame, covered with corrugated iron.

ESOPUS, N. Y.—Underhill, Clinch & Co., of Esopus, have incorporated for $135,000, to manufacture hardware supplies. G. T. Adams, 184 Sixth St., Brooklyn, is interested.

STATEN ISLAND, N. Y.—The following contracts have been awarded by Milliken Bros., 11 Broadway, New York, in connection with the new steel plant and rolling mill, at Staten Island: contract for electric generators was awarded to the WESTINGHOUSE ELECTRIC & MFG. CO., 111 Broadway, New York; the contract for engines to operate power plant was awarded to C. & G. COOPER, of Mt. Vernon, O.; the contracts for table work were awarded to the UNITED MCH. & FOUNDRY CO., of Pittsburg, Pa., and the MORGAN ENGINEERING CO., of Alliance, O.

CAMDEN, N. J.—It is reported that a large wool-scouring plant will be erected on the east side of Cooper's Creek near the Pennsylvania Railroad Co.'s bridge.

HOBOKEN, N. J.—Bids are in, but no contract has been awarded for the construction of the factory for the American Lead Pencil Co. F. M. Small, 265 Broadway, N. Y., is Arch.

JERSEY CITY, N. J.—It is reported that the Cockburn Barrow & Mch. Co., 234 11th St. will erect a new factory at 13th and Monmouth Sts.

NEWARK, N. J.—It is reported that the American Instrument Co. will erect a plant for the manufacture of all kinds of appliances. Adelbert O. Beneony, of 16 Lawrence St., Newark, is interested.

Revised plans are out for figures for the factory of the Muhlbach Saddle Co., at 391 Mulberry St., Newark. Pigott & Mathesius, 188 Market St., Newark, are Archs.

PHILADELPHIA, PA.—It is reported that the Williams Mfg. Co., Twelfth and Carpenter Sts., Philadelphia, is having plans prepared for a 4-story addition to their factory.

JEANETTE, PA.—The contract for erecting the new brewery for the Pittsburg Brewing Co., of Pittsburg, Pa., was awarded to C. T. Meyers, of this city, for $68,000.

SCRANTON, PA.—The Tripp Park Throwing Co. will have plans prepared for a new silk throwing mill. An entirely new line of equipment will be purchased. John R. Troch, Scranton, Pa., is interested.

CUMBERLAND, MD.—It is reported that the Englehart Mill Co. will rebuild its plant recently destroyed by fire.

BALTIMORE, MD.—Bids have been received for a 3-story building for F. C. Wachter, at 209 West German St., Baltimore. The new building will be used as an addition to the present sponging and waterproofing departments. Simonson & Pietsch, American Bldg., Baltimore, are Archs.

It is reported that the Detrick & Harvey Machine Co., Preston St., Baltimore, will erect an addition to its present factory.

WASHINGTON, D. C.—Plans have been completed for the construction of buildings for the Firth-Sterling Steel Co.'s new plant near this city. One building will be 75 × 150 ft., and the other 125 × 300 ft., brick and steel construction. J. R. Rose, c/o Firth-Sterling Steel Co. Pittsburg, Pa., is Engr.

MOCKSVILLE, N. C.—The Gray Mining & Development Co., of this place, has incorporated for $100,000 to establish a plant for mining and milling gold.

CHARLESTON, S. C.—It is reported that the Mutual Ice Mfg. and Cold Storage Co., of this city, will erect a new plant.

BIRMINGHAM, ALA.—Plans have been completed for the construction of foundry and machine shops for Payne & Joubert in this city. The main building will be 150 × 400 ft., of brick and steel. Electric traveling cranes will be installed. A boiler and sheet metal plant will be installed later. Chas. Bowron, Birmingham, Ala., is Engr. R. S. McKnight, of Birmingham, is Vice-Pres.

The Van Dusen Motor Car Co. has been incorporated in this city and will erect a plant for manufacturing automobile and motor trucks.

ENSLEY, ALA.—It is reported that a cast iron pipe plant will be built here by the Republic-Tennessee Merger, with a capacity of 5,000 tons monthly.

MEMPHIS, TENN.—It is reported that Col. I. F. Peters, of the Industrial League, has closed a deal with a large soap company to locate here. The new concern is capitalized at $50,000 and in all probability will be the largest soap factory in the South. Bellis Bros., of Louisville, Ky., are interested.

GALLATIN, TENN.—It is reported that two new grain elevators and warehouses will be built here by the Payne Elevator & Warehouse Co.

KNOXVILLE, TENN.—It is reported that H. O. Nelson, of this city, will erect a new storage warehouse in this city on Second St., near the Asylum Ave. viaduct.

LOUISVILLE, KY.—It is reported that the Louisville Tin & Stove Co. will erect a new $50,000 plant on Maple St.

A site has been purchased for the erection of a $75,000 ice plant. A 50-ton refrigerating plant will be installed. William Heuser is interested.

CHAGRIN FALLS, O.—The reference in our issue of Jan. 4 to the alteration of the factory of the Union Bag Co. was incorrect. It is the factory of the Adams Bag Co. Fairbank & Moody, 150 Nassau St., New York, are Consult. Engrs.

NEWARK, O.—It is reported that the Chillingsworth Foundry & Machine Co., of this city, will erect an addition to its building now under construction. A 250 HP. electric power plant, operated by gas engines, together with a number of motors, will be installed.

YOUNGSTOWN, O.—It is reported that the Buckeye Wall Plaster Co., of this city, is planning the erection of a new factory here.

COLUMBUS, O.—It is reported that the Hanna Paint Mfg. Co. will erect a factory at Elm and Long Sts.

FREMONT, O.—It is reported that E. E. Bowlus, of this city is interested in the proposed ice plant to be built here.

COLUMBUS, O.—The contract for the construction of brewery for the Washington Brewing Co., Columbus, was awarded to D. W. McGRATH, Columbus, O.

BUCYRUS, O.—The Ohio Central Railway Co. contemplates the erection of several new shops at this place.

ADRIAN, MICH.—The Schwartz Electric Co., of this place, has plans in progress for a new factory building.

GRAND LEDGE, MICH.—A new factory building for the Grand Ledge Chair Co. will be erected here.

KALAMAZOO, MICH.—Plans have been completed for an addition to the factory building of the Standard Paper Co., of this city. The addition will be of brick, 60 × 350 ft.

JACKSON, MICH.—The Michigan Wagon & Mfg. Co. will erect a new building for the manufacture of wagons. Arthur Cameron, of this city, is in charge.

ALMA, MICH.—The factory of the Asphalt-Masticote Co., of this place, will rebuild soon. W. H. Worswick, of Alma, is Consult. Engr.

SAULT STE. MARIE, MICH.—It is reported that the Lake Superior Steel Corporation will expend about $150,000 in the new open hearth steel plant to be erected here. Willard M. Sawyer, of this city, is Mgr.

MILWAUKEE, WIS.—It is reported that the Milwaukee Stamping Co., 233 Oregon St., will erect a new factory here.

It is reported that the Bayley Structural Iron Co., of this city, is having plans drawn for a new building.

EMMETSBURG, IA.—It is reported that Whea Bros. will erect a large tile factory here.

DAVENPORT IA.—The J. F. Baepple Co., of this city, will erect a new button factory here.

MINNEAPOLIS, MINN.—Plans have been prepared for a paint shop for the Minneapolis, St. Paul & Sault Ste. Marie Railway Co. at this place. The building will be fireproof, 123 × 280 ft., of reinforced concrete. Wm. Kenyon, Guaranty Bldg., Minneapolis, is Arch.

KENNEDALE, TEX.—It is reported that a new canning factory will be erected here. M. C. McGaw and John M. Payne, both of this place, are interested.

AUSTIN, TEX.—It is reported that the Regal Shoe Co., of this city, will establish a new factory here.

LAS ANIMAS, COLO.—It is [illegible]ed that the American Beet Sugar Co. [illegible] erect a 600-ton sugar factory here.

SPOKANE, WASH.—Plans are [illegible] progress for the erection of machine shops [illegible] car barns and a round house, costing $1[illegible] by the Spokane Traction Co. J. P. [illegible] is interested.

SALEM, ORE.—It is reported [illegible] a new paint factory will be erected here. [illegible] S. Gile is Chn. Com.

PORTLAND, ORE.—The new [illegible] of the St. Johns Sawmill Co. will [illegible] located on Albany St., in this city. Cost, [illegible]. W. C. Francis is interested.

SAN FRANCISCO, CAL.—[illegible] Monarch Rotary Engine Mfg. Co., of [illegible] city, has been capitalized for $1,500,0[illegible] is reported it is the intention of the company to erect a large boiler works.

SACRAMENTO, CAL.—A new [illegible] will be erected here, at 12th and H [illegible] by Capt. Frank Ruhstaller.

ALAMEDA, CAL.—It is reported that the Western Iron & Steel Co. will [illegible] a large iron and steel plant here. P[illegible] Bowles, American National Bank, Oak[illegible] Cal., is interested.

SAN FRANCISCO, CAL.—The Austin Car Co., of this city, have plans for [illegible] erection of a factory for the manufacture of mining machinery and supplies. The [illegible] building will be located on 22d Ave.

MISCELLANEOUS CONTRACTS.

The names of parties awarded contracts are printed in capital letters.

DITCHES.—Barstow, Tex.—This city has voted to spend $50,000 in construction of 30 miles of deep drainage ditches.

DOCK.—Superior, Wis.—The Chicago & Northwestern Ry. Co. will construct a dock at Superior to cost $600,000. E. C. Carter is Ch. Engr., at Chicago.

FIRE ALARM SYSTEM.—Indiana, Pa.—R. M. Mullen, Engr., advises us that fire department of Indiana, Pa., contemplates the installation of an automatic fire alarm system.

SUBWAY.—Newark, N. J.—Bids are asked until 3 p. m., Jan. 16, for constructing a subway of six tile ducts in Green St. Clarence E. Tobin, Clk. to Comrs. for erection of new city hall, 800 Broad St.

TWO SNAGBOATS.—Vicksburg, Miss.—Bids are asked until noon, March 10, for construction and delivery of two steel snagboats. Capt. G. M. Hoffman, Engrs. (Advertised, Engineering News.)

VESSEL.—Washington, D. C.—Bids are asked until 2 p. m., Feb. 1, for construction and delivery of the twin-screw steel steam light-house tender "Cypress." Rear-Admiral B. P. Lamberton, Chn. Light-House Board.

DITCH.—Kalamazoo, Mich.—A contract will be let on Jan. 11 for one of the largest ditches in this section of Michigan, known as the Four County drain. It will be five miles long with tributaries of equal length.

STEEL CAISSON.—Charleston, S. C.—No bids were received on Jan. 6 at the Bureau of Yards and Docks, Navy Dept., for the steel caisson for dry dock No. 1, Charleston Navy Yard, S. C. Bids are asked until Feb. 10 for this work. Specifications are on file at office of Engineering News, New York.

CANALS.—Roswell, N. Mex.—Plans and specifications for canals and laterals at Roswell, known as the Hondo Project, are on file at office of Engineering News, New York. Bids are asked until Feb. 1, as is advertised in Engineering News.

REPAIRING RIPRAP BREAKWATERS.—New York, N. Y.—Bids are asked until noon, Feb. 8, for repairing and enlarging riprap breakwaters at Larchmont, Glencove and Port Jefferson, N. Y. Col. W. R. Livermore, Engrs. (Advertised, Engineering News.)

REPAIRING WHARF.—Boston, Mass.—WM. L. MILLER, 19 Milk St., Boston, has been awarded the contract for repairing wharf and buildings at Rainsford Island, Boston Harbor, for the city of Boston. Bids were received on Dec. 14. Cost, $6,563.

CEMENT.—Belle Fourche, S. Dak.—Bids are asked until 4 p. m., Feb. 6, for furnishing from 20,000 to 30,000 bbls. of Portland cement, f. o. b. cars at Belle Fourche. E. A. Hitchcock, Secy. Dept. Interior, Washington, D. C. (Advertised, Engineering News.)

RAILINGS.—New York, N. Y.—Bids are asked until Jan. 23, noon, for furnishing, erecting and painting railings on the new Croton dam at Cortlandt, N. Y. Est. quantity is about 2,300 lin. ft. John F. Cowan, Pres. Aqueduct Comrs., 280 Broadway.

DAM, CANAL, ETC.—Boise, Idaho.—Plans and specifications for the construction of a dam, 27-mile main canal, two earthen embankments, etc., are on file at office of Engineering News, New York. Bids are asked until Feb. 1, as advertised in Engineering News. Noted fully last week.

DRY DOCK.—Kelso, Wash.—The Pacific Dry Dock Co., of Portland, Ore., will build a dry dock at Kelso. It will be 62 × 80 ft. long, with a main pontoon 35 × 85 ft. There will be used about 80,000 ft. of lumber, which will be furnished by the C. C. WILSON LUMBER CO., of Rainier, Wash.

TWO STEEL LOCK GATES.—Nashville, Tenn.—Bids are asked until 11 a. m., Feb. 8, for construction, delivery and erection of two steel lock gates, and construction and delivery of filling valves, etc., at Lock No. 21, Cumberland River. Major H. C. Newcomer, Engrs. (Advertised, Engineering News.)

REPAIRING FERRYBOATS, STONE.—New York, N. Y.—Bids are asked until Jan. 12, 2 p. m., for repairs to the municipal ferryboats and terminal buildings on contract 966. Bids are asked also for delivering about 15,000 cu. yds. of quarry stone. John A. Bensel, Comr. Dept. Docks and Ferries.

READERS' WANTS

Our readers, and others, who are in the market for supplies, machinery, etc., or to award contracts for work, will nearly always find the names of the firms who handle the material they want by referring to our advertising pages. Our advertisers are constantly changing their cards, and for this reason we advise our readers to look over the paper from the front cover to the back cover so as to keep in touch with up-to-date contractors' material, methods, etc. Mention Engineering News when writing our advertisers. If, however, you do not find advertised just what you want please write us at once and we will notify the proper firms without delay, and without charge.—Engineering News can help buyers.

BAR SCREEN.—Newton, N. J.—Hinman & Sproul, contractors, write us for the names of firms who make bar screens for a capacity of 30 yds. an hour.

WOODEN LATH PLASTER BOARD, ETC.—Hackensack, N. J.—F. V. Ferber, contractor, writes that he wants prices on wooden lath plaster board, hair and lime, etc.

OIL FUEL BURNERS.—New York, N. Y.—H. H. Kress, c/o Cameron Steam Pump Works, New York, informs us that he wants the names of makers of oil fuel burners.

CONCRETE BUILDING BLOCK MACHINE.—New York, N. Y.—John T. Keeler, 1570 Broadway, Manhattan, N. Y. C., writes us that he wants the names of firms making the above.

COAL DUMPING CARS.—Germany.—E. T. Ziegler, C. E., c/o Gutehoffnungshuette, Abt. Brueckenbau Sterkrade, Rhld., Germany, writes us that he is in the market for coal dumping cars, with a sort of telescope channel, by means of which coal is conveyed from cars to cellars of residences, etc.

30 HP. ENGINE AND BOILER.—Cassville, N. J.—W. C. Van Hise, of Cassville, writes us that he is in the market for a 30 HP. boiler and engine.

MACHINERY FOR MAKING WOOD FIBER PLASTER.—Little Rock, Ark.—F. J. Donahue & Co., contractors, writes us that the company intends to buy some machinery for the above.

SMALL GAS PLANTS.—Montreal, Que.—The Allis-Chalmers-Bullock, Ltd., Purchasing Dept., writes us that it wants the names of companies manufacturing small gas plants, suitable for factory use.

MILL BUILDING CONSTRUCTION.—Midland, Ont., Can.—H. D. Fargo, Box 91, Midland, writes us that he wants the names of firms in the mill building construction business, such as designers and builders, etc.

ELECTRIC RAILWAY EQUIPMENT.—Mattoon, Ill.—A. M. Shaw, C. E., Dixon and Mattoon, Ill., writes us that he will soon be in the market for equipment for an electric railway, and he wishes to correspond with manufacturers at once.

DRAINING DITCH.—Spirit Lake, Ia.—Bids are asked until April 3 for ditch work in Drainage District No. 4. The bids opened Jan. 2 have been rejected. The work calls for about 10,000 ft. of tile pipe. There is considerable other work proposed that will call for more or less dredge work. C. C. Hamilton is the County Auditor, Spirit Lake, Ia.

QUAY WALL.—Key West, Fla.—The Bureau of Yards and Docks, Navy Dept., Washington, D. C., has rejected the bids received Dec. 2 for a quay wall at Key West, Fla. (noted in Engineering News Dec. 7), on the ground that the prices quoted were excessive. The bureau is now considering whether to readvertise the work or to construct the quay wall by day labor.

DREDGING.—Philadelphia, Pa.—Contract for dredging and filling at the reserve basin, U. S. Navy Yard, League Island, has finally been awarded by the Bureau of Yards and Docks, Navy Dept., to HENRY STEERS, 17 Battery Pl., New York, for $0.224 per cu. yd. Bids were opened Dec. 16. Noted in Engineering News on Dec. 21. Amount available for the work, $77,000.

LIGHT-HOUSE FOUNDATION.—Philadelphia, Pa.—The Champion Iron Co., of Kenton, O., submitted the lowest bid for the metal work for foundation of light-house, elbow of Cross Ledge light-station, Delaware Bay. Bids were received on Dec. 18 by Engineer of the Fourth Light-House District, Philadelphia. The Champion Iron Co.'s bid, $15,375, was recommended for acceptance.

ELECTRIC HOISTS, ETC.—New York, N. Y.—Bids are asked until 2 p. m., Jan. 24, for installation of four electric hoists and telpher system at U. S. Appraiser's warehouse, New York. L. M. Shaw, Secy. Treasury Dept., Washington, D. C. Copies of specifications and plans may be obtained upon application to the Chief Engineer and Superintendent U. S. Public Buildings, 156 Post-Office Bldg., New York.

TUNNEL.—Milwaukee, Wis.—WILLIAM H. McGOVERN, of Chicago, Ill., has been awarded the contract for building a tunnel across the Milwaukee River from Knapp to Popular St. The tunnel is to be 345 ft. long, 6 ft. high and egg shape. The contract also includes two 63-ft. shafts, one on each side of the river. McGovern's bid was $35 per ft. for the tunnel and $70 for the shafts. The next lowest bid was $70 for the tunnel and $88 for the shafts.

GOVERNMENT PROJECTS.—Washington, D. C.—A District press report states that the engineering officials of the U. S. Reclamation Service hope to have completed various projects now under contract, as follows: Arizona, Salt River, 1908; California, Yuma, 1907; Colorado, Uncompahgre, 1909; Idaho, Minidoka, 1906; Montana, Huntley, 1907; Nebraska, Wyoming, North Platte, 1907; Nevada, Truckee-Carson, 1909; New Mexico, Hondo, 1906; North Dakota, Fort Buford, 1907; South Dakota, Belle Fourche, 1906; Wyoming, Shoshone, 1908.

WIRELESS TELEGRAPH APPARATUS.—New York, N. Y.—Bids are asked until Jan. 25, noon, by Bureau of Supplies and Accounts, Navy Dept., Washington, D. C., for six sets of wireless telegraph apparatus, each set to include one complete sending and two complete receiving outfits and to consist of all parts necessary for the successful operation of the same, except antennae and (in the case of three of the sets) low potential generator, for delivery at the New York navy yard. Specifications are on file at office of Engineering News, New York.

WHARF.—Fort Monroe, Va.—Bids were received as follows by Capt. E. Eveleth Winslow, U. S. Engrs., Norfolk, Va., on Dec. 29 for constructing wharf at Fort Monroe, as advertised in Engineering News: Geo. C. Thomas, New York, N. Y., $20,107; Grant Wilkins, Atlanta, Ga., $18,700; Bernard Rolf, New York, N. Y., $18,733; Abbot-Gamble Co., New York, N. Y., $19,735; John Monk, Norfolk, Va., $16,668; Earnest L. Miner, Petersburg, Va., $19,741; Penn Bridge Co., Beaver Falls, Pa., $23,880; Wm. H. Virden, Lewis, Del., $18,900; Alsop & Peirce, Newport News, Va., $19,000; E. Hart, Norfolk, Va., $16,994.

CITY IMPROVEMENTS.—Pensacola, Fla.—Mayor Charles H. Bliss informs us that the city of Pensacola has elected T. Chalkley Hatton, of Wilmington, Del., as Consulting Engr. on its new system of sewerage which will be installed at once. J. N. Hazelhurst, Ch. Engr. of the city of Mobile, Ala., has been engaged as Resident Engineer on the $750,000 improvements that are to be made. Andrew J. Bryan, of New Orleans, La.; Frederick Ausfelt, of Montgomery, Ala., and Edwards & Walter, of Columbus, S. C., have been elected as competing engineers to make plans for the new city hall. First prize, adoption of plans; second prize, $150; third prize, $100. Hon. L. Hilton Green has been made Chn. of the Board of Bond Trustees. The bond issue will be immediately put on the market.

U. S. POSSESSIONS AND CUBA.

The names of parties awarded contracts are printed in capital letters.

CROSS TIES.—Panama.—The Isthmian Canal Commission, at Washington, D. C., will issue a call soon for bids on 200,000 cross ties, cypress, pine, oak or chestnut. The bids for the 200,000 cypress cross ties opened Dec. 14 were rejected on account of their excessive price, and the advertisement is to be reissued in the above form.

ELECTRIC RAILWAY.—Cuba.—Max J. Baehr, American Consul, at Cienfuegos, Cuba, reports that a concession has been granted by the Cuban Government for a railroad extension and directs attention of American dealers in electric and railroad supplies to this opportunity to furnish equipment from the United States. He advises parties interested to place themselves in communication with E. F. Greenwood, Gen. Mgr. of the Havana Central Railway, at Havana, Cuba. The company now operates six miles of railroad and has projected 120 miles. It is to connect Havana with suburban towns: Mariano, Guanajay, Guines, Santiago and Las Vegas. Edwin Hanson, 52 Broadway, is Pres.; M. L. Diaz is Vice-Pres. and A. W. K. Billings is Ch. Engr., 85 Zulueta St., Havana.

WATER-WORKS, ETC.—Porto Rico.—Municipal ownership of water-works and electric-lighting plants at San Juan, P. R., is being considered by local authorities. The city of Caguas, P. R., has applied to the Treasurer of Porto Rico for an insular advance of $50,000 with which to construct a system of water-works, sewers and to repair streets. It is expected that the Legislature which convenes this month, will make the necessary change. Plans have been prepared by the city architect and the probable cost of the work is divided as follows: Aqueduct, $27,000; sewers, $8,800, and streets, $12,000.

RAILWAY.—Cuba.—The Cuba Eastern R. R. Co. will be built from San Pre to St. Luise, in the La Maya Valley, Porvince of Santiago, a distance of 55 miles. A contract for 40 box cars has been awarded to the AMERICAN CAR & FOUNDRY CO. Contract for construction of steel bridges has been awarded to the PENNSYLVANIA STEEL CO., Steelton, Pa. M. S. de Zayas, Purchasing Agent, 81 Wall St., New York, is in the open market for all other equipment, including 60 additional 30-ton capacity box cars. Grading is nearing completion. A. V. Sims is Gen. Mgr., at Guantanamo, Cuba. H. W. Bennett is Pres., 81 Wall St., New York It is said that numerous sugar factories, etc., are to be built along the line of the new railroad.

WATER SYSTEM.—Manila, P. I.—The Insular Bureau of the War Department has received cable dispatches from Manila stating the bids received on Jan. 2, 1906, for the gravity water system are as follows: J. G. White & Co., 49 Exchange Pl., New York, $1,096,853; Matson, Lord, Belser & Co., San Francisco, $1,040,729; Atlantic Gulf & Pacific Co., 13 Park Row, New York, $1,071,930; Schau, Batcher Co., Sacramento, Cal., $1,067,032. Award of contract will be announced in Engineering News next week. J. F. Case is Ch. Engr., Dept. Sewer and Water-Works Construction. The gravity water supply contract will preferably be let as a whole, but if advantageous to the city of Manila may be divided as follows into five separate contracts: Dam and head-works, furnishing steel plates and rivets, manufacturing and laying steel pipe, tunnel and conduit, reservoir and gate-house.

There is to be constructed a masonry dam across the Mariquina River, about three miles from the town of Montalbon, Province of Rizal, and about 16 miles northeast of Manila. It is to be built of rubble concrete masonry resting on the solid rock, and will have a length of 400 ft. on the crest and a height above the river bed of about 75 ft. On the south side of the overflow a gate chamber is to be constructed serving an inlet well, sluice way and supply pipe, the two last named to extend through the dam. Owing to the heavy summer rainfall, most of the work will have to be done on the dam in the dry season. In building the dam, 3,500 cu. yds. of earth and loose rock excavation is called for and 12,000 cu. yds. of solid rock excavation; 23,000 cu. yds. of rubble concrete masonry will be used in the dam. All iron work required in the dam is to be furnished by the city of Manila. A steel-riveted pipe 10.6 miles long, 42-in. diameter, is to connect the dam with the reservoir. It is to be cylindrical and composed of large and small courses, the smaller fitting at each end into the larger. The plates used in its construction must be 60 ins. or more in width and must be transported to Manila and the pipe manufactured there; 155,000 lbs. of steel rivets will be used. After the pipe has been made up in courses and tested it must be coated with a mixture of pure-grade refined asphaltum and natural liquid asphaltum of the "Maltha" grade. In passing under the bed of the Mariquina River, near San Mateo, a cast-iron pipe 450 ft. long and 36 ins. in diameter will be required. This must be laid during the time of extreme low water. Between the Mariquina River and the reservoir there will be constructed an aqueduct in tunnel and open cut. The rock through which it must pass is of the soft variety, known locally as adobe stone, and not much difficulty is anticipated. The excavation will consist of 20,000 cu. yds. of earth and rock; 3,500 cu. yds. of concrete will be necessary for lining the tunnel. A reservoir and gate-house are to be built about 1 mile east of the present deposit and 1½ miles outside the limits of the city, and the same distance from water transportation at San Juan River. The work consists of 29,000 cu. yds. of earth excavation and 235,000 of rock. About 2,000 cu. yds. of concrete will be used. It is estimated that over 100,000 barrels of Portland cement will be required for the work. It is to be noted that this gravity water supply work will involve later an extensive general distribution system for the city of Manila, for which plans are now being prepared. Work is to be commenced within three months of execution of contract, and is to be completed by July 1, 1908.

MEXICO.

The names of parties awarded contracts are printed in capital letters.

IRON FOUNDRY.—Ameca, Jalisco.—J. G. Higareda will establish an iron foundry and machine shops here.

MUSEUM.—City of Mexico, Mex.—The federal government is erecting a building here for the industrial technological museum.

MINING.—Autlan, Jalisco.—A new concentrating plant is to be erected at the Agua Blanca mine in this district. William Oliver is Supt.

DAM.—San Juan de los Lagos, Jalisco.—The work of constructing the dam that is to form the large reservoir for supplying this city with water is in progress.

BREWERY.—Queretaro, Quer.—It is announced that John C. Gamel, who was granted a concession by the Mexican Government to erect a large brewery here, will soon let the contract for its construction.

IRRIGATION.—Gomez Palacio, Durango.—Price & Torres, of this place, will establish a large system of irrigation near here. The water supply will be obtained from the Agua Naval River.

STREET RAILWAY.—Torreon, Dgo.—Considerable extensions are to be made at an early date on the tramway lines in Torreon, to improve the service in the eastern section of the city.

HOTEL.—Monterey, Nuevo Leon.—The firm of Chapa, Gomez & Guiroga have had plans prepared for a large hotel which they will erect in this city. It is expected that it will be completed and ready for opening by next fall.

MINING MACHINERY.—Guanajuato.—The Guanajuato Amalgamated Gold Mines Co., of which Lawrence P. Adams is Resident Mgr., at Guanajuato, has recently contracted with the ALLIS-CHALMERS CO. for a 100-stamp mill to be erected at the Jesus Maria mine at La Luz.

BREWERY BUILDINGS AND MACHINERY.—Monterey, Nuevo Leon.—Extensive additions are to be made to the buildings of the Cuauhtemoc brewery in Monterey, including a new modern general office building, a new 2-story bottling house, a 4-story stock house, also a large amount of machinery.

RUBBER FACTORY.—Saltillo, Coahuila.—The contract for constructing the rubber factory for the Anglo-Mexican Rubber Co. here has been awarded to W. E. GIESECKE, of Torreon, Mex. The factory will cost about $400,000. The rubber will be manufactured from the guayule plant.

SMELTER.—Velardena, Durango. — Under an amendment to the concession which the federal government granted the Velardena Mining & Refining Co. for the construction of a smelter at this place the plant must have a daily capacity of at least 800 tons and the work of construction must be commenced within two months.

FEDERAL BUILDING.—Chihuahua, Chih.—The federal government is to erect a 3-story building in the city of Chihuahua. The building will cost $300,000. It will be of cut stone. The site will be in front of the state government palace. Minister of Finance Limantour, City of Mexico, has the matter in hand.

PASSENGER STATION.—Monterey, Nuevo Leon.—Plans are being prepared by the National Railroad Co. for a new passenger station at Monterey. It is proposed to build the building of stone. R. T. Macdonald is Ch. Engr., Mexico, Mex.

SMELTER.—Jiminez, Chihuahua. — Compania Fundidora y Afinadora de Chihuahua has been organized for the purpose of erecting a large smelter here. Leopold Iwonskey is Pres. of the company. J. F. Johnson is Mgr. The smelter will have an initial capacity of 250 tons daily. This will be increased as the business grows.

ABBATOIR.—Tampico, Vera Cruz. — The plans for the new city slaughter house to be erected here have been prepared and are now in the hands of Governor Pedro Arguelles for his approval. The building will be of solid stone, brick and steel construction, and will be so built that additions can be readily made when required.

BRIDGE—San Cristobal, Chiapas.—The legislature of this state has just authorized the construction of a bridge over the Grijalva River at El Paso de Chiapa. E. A. Ampudia, Engr., has been commissioned to prepare plans for the proposed structure. The legislature has also authorized the construction of a wagon road between San Cristobal and Alto de Agua.

WOOD WORKING MACHINERY.—Ciudad Porforio Diaz, Chih.—R. G. and Geo. C. Vaughan have petitioned congress for authorization to introduce, free of customs duties, the material, including machinery, iron work, etc., which they require for a factory which they are about to build in Ciudad Porforio Diaz for the manufacture of articles of wood.

MARKET.—Colima.—The city council of Colima, capital of the state of the same name, has awarded the contract for the construction of a market house, on the American style, to the firm of UGARTE & GARCIA FUERTES, of the city of Guadalajara. The building is estimated to cost $60,000, and must be completed in the month of August of next year.

WATER-WORKS AND ELECTRIC LIGHT PLANT.—Chihuahua, Chihuahua.—The Chihuahua state legislature has appropriated $500,000 for a modern water-works system for the city of Chihuahua. The river will be used, and will also furnish power for a municipal light plant. Enrique C. Creel, the governor of the state, can be communicated with for details.

SUGAR MILL.—Tampico, Tamaulipas.—The Rio Tamasopo Sugar Co., owning plantations near Tampico, Tamaulipas, are to erect a sugar mill of 800 tons capacity, also a saw mill and coffee mill, and install extensive electric machinery. The headquarters of the company are in Milwaukee, Wis. Herbert B. Tanner is Pres. of the company, and Harry C. Tanner, Secy.

RAILROAD.—Oaxaca.—The state government of Oaxaca has granted a concession to a company in which Charles A. Hamilton, Pres. of the San Juan Taviche Mining Co., is primarily interested, for a railroad from Ocotlan to San Geronimo Taviche, a distance of 28 kilometers. The road will be narrow gage. The road will connect with the Ejutla Railroad at Ocotlan.

ROLLING STOCK.—The Interoceanic Railroad Co. is to purchase a large amount of rolling stock. About 500 freight cars are required, and a large number of first and second class passenger coaches, baggage cars, and, at least two locomotives probably will be included. The equipment will be of the highest class, and equipped with the latest pattern of safety appliances and air brakes. W. T. Ingram is Ch. Engr., at Mexico, Mex.

TUNNEL.—Guanajuato.—The state government of Guanajuato has extended the time for receiving bids for the construction of the Cuajin tunnel until Jan. 31 next. The tunnel is designed to carry off flood water from the Guanajuato River. It is estimated that the work will cost $350,000, and the government specifies that it must be completed by June 15, 1908.

RAILROAD.—Queretaro, Queretaro.—The state government of Queretaro has granted a concession to A. C. Spencer to construct a railroad from El Pueblito to San Isidro. The line will be about 20 miles in length, and it is expected to complete it within six months. The company is formed by A. C. Spencer, Eng. Adolfo de la Isla, of the city of Queretaro; Alfonso Veraza and Jose M. Calvo.

PACKING PLANT.—Uruapam, Michoacan.—The United States Packing Co., which is erecting a large meat-packing plant here, will erect seven other similar plants in different parts of Mexico. The plant at this place will be completed in about three months. The other plants will probably be located at Mexico City, Vera Cruz, Guadalajara, Monterey, Chihuahua, San Luis Potosi and Tampico.

RAILWAY.—Coahuila.—A concession has been granted, by the state government, for a railway from the station at Allende, on the International railway line in state of Chiapas, to the town of Zaragoza, in the same state. The road must be completed within a period of two years from the date of the concession. Lic. Rafael Davies and Salavador Cardenas Pena, of Monterey; Nuevo Leon, are the concessionaires.

RAILWAY.—Jalisco.—The Jalisco Railroad Co. has organized in Portland, Me., with a capital stock of $7,500,000, for the purpose of buying the concession granted Melvin C. Miller, by the state of Jalisco, for the construction of a railway from Guadalajara to the Pacific port of Chamela, and the building of said line. Fred. Seward, of the city of New York, is Treas. of the company, and one of the directors.

HYDRO-ELECTRIC PLANT.—Sonora.—L. del Paso, whose address is the Mutual Building, City of Mexico, has applied to the department of fomento for a concession to use the waters of the Septentrion and Chiapas Rivers, tributaries of the Fuerte, in the states of Sonora and Sinaloa, for electric motor power. The diversion of the waters is petitioned for between Guamochul on the Septentrion and Espiritu, on the Chiapas. The water will be piped, for a considerable distance, to the place where it will be used. Guamochul is in Temores, municipality of Guazapares, district of Arteaga, Chihuahua, and Espiritu is in the municipality of Limon, district of Alamos, Sonora.

RAILWAY.—Chihuahua. — It is reported that the Greene Gold & Silver Co. has applied to the state government of Chihuahua for a concession to build a railway from Temosachic, the present terminus of the Chihuahua & Pacific Ry., to Malcoba, on the line between the states of Chihuahua and Sonora, and, probably, the line will be continued, in the state of Sonora, to some point on the Gulf of California.

RAILROAD CONCESSIONS.—Sonora.— A concession has been granted to John Henderson to construct a standard-gage railroad from Port Lobos to the town of Caborca, Sonora. Surveys must commence within six months, and at least ten kilometers of road finished within 18 months, and at least ten additional kilometers each succeeding year, so as to finish the road within six years. The offices of the company are in the city of Guaymas, Sonora.

ELECTRIC LIGHT AND POWER PLANT.—Santa Eulalia, Chihuahua.—Ezequiel Salazar Enriquez, of Chihuahua, will establish an electric light and power plant at Santa Eulalia. In addition to furnishing lights and power for the town and mines at Santa Eulalia, he proposes to convey the current to the city of Chihuahua and provide that city with lights, if the necessary franchise can be obtained from the municipal and state authorities.

HYDRO-ELECTRIC PLANT. — Sinaloa.—The Compañia Minera Guadalupe de los Reyes, which owns six mines in the Cosala district, Sinaloa, is to install a hydro-electric plant at the falls on the Piaxtla River, and transmit power for the operation of its mines. The capacity of the plant will be 5,000 HP., and will cost about $800,000. Robert McDoble, an Engineer from San Francisco, Cal., has prepared the plans and can give information in regard to the plant.

RAILROAD. — Queretaro, Quer. — Ferrocarril Queretaro y Sur.—From the City of Queretaro, south to Son Isidor, state concession, has been granted to A. C. Spencer. Present length, 36 kilometers. Preliminary surveys are made. Estimated cost, $300,000. Right-of-way and $60,000 donated. Capital all subscribed. Grading will be started about Jan. 15, 1906. Business enough in sight to pay 10% on investment, and it will probably be doubled when the road is put into operation. H. E. Matton, Queretaro, is Engr.

WATER POWER.—Sonora.—Lic. Miguel A. Lopez has been granted a concession to divert 60 cu. meters of water per second from the Yaqui River, in the district of Sahuaripa, state of Sonora, for generating motive power to be used for any industrial purpose. The concessionaire may construct the necessary canals, also telegraph and telephone lines. Plans must be submitted within 12 months to the department of fomento; construction commence within two years, and be completed within seven years. Free importation of machinery, once only, is granted, and capital invested relieved of taxation for five years.

COAL MINES.—Mier, Tamaulipas.—Preparations have been made for developing the coal fields near here on a large scale. La Compania Carbonifera de Ciudad Mier, S. A., has acquired the larger part of the coal fields and it will open up mines in a short time. Miguel Torres, Mgr. of the Banco Minera, of Gomez Palacio, state of Durango, is president of the new company. The federal government has granted this company a concession, giving it the exclusive right to exploit an immense track of land extending from Mier to the San Juan River. The coal beds are found at depths ranging from 8 ft. to 25 ft. from the surface.

HYDRO-ELECTRIC PLANT.—Michoacan.—The Compania Exploradora de las Fuerzas Hidro-Electricas del Rio Angulo has recently been incorporated with $2,000,000 capital to generate electric power from the Rio Angulo, in the state of Michoacan, where the company has obtained, from the federal government, concessions of very valuable water falls, capable of generating several thousand horsepower, which it is proposed to transmit to the cities of Guanajuato, Leon, Celaya, Irapuato, Salamanca and to other points. E. Brunel is the general manager of the company, and may be addressed at Irapuato, state of Guanajuato.

CONTRACT, ELECTRIC MACHINERY.—City of Mexico.—**G. & O. BRANIFF, of the** City of Mexico, representatives of the Westinghouse Electric & Mfg. Co., have recently contracted for between 40 and 50 alternating current induction motors to be installed in Guanajuato and vicinity on the circuits of the Guanajuato Power & Electric Co. The Peregrina Mining & Milling Co. is to install part of these motors at their new 120-stamp mill and mine. Part will be placed at the mine and mill of Frank E. Peck, the San Francisco Mining & Milling Co., where 60 stamps are to be installed. These motors have an aggregate capacity of from 1,000 to 1,500 HP.

WATER AND SEWER SYSTEMS.—Hidalgo del Parral, Chihuahua.—Date for receiving bids for furnishing material and construction of a system of sewerage and hydraulic works for the sanitation and water supply of the city has been extended from Jan. 15 to 5 p. m., Jan. 31. Work includes furnishing iron pipe and fittings, and vitrified clay pipe and fittings, valves and their cases, Portland cement, lime; also work of excavating and laying pipes, masonry work, fire hydrants, and construction of stone and mortar dam, cement lined. Victor Esperon, Municipal Palace, Hidalgo del Parral, is Secy. Com. Specifications may be seen at office of Engineering News, 220 Broadway, New York. Advertised in Engineering News on Dec. 14.

CONTRACT PRICES.

FIRE SERVICE MAINS.—New York, N., Y.—Bids were received on Dec. 22 by the Department of Water Supply, Gas and Electricity for furnishing and delivering and laying high-pressure fire service mains and appurtenances in the Southern District, Boro. Manhattan and Bronx. The bids, six in number, were submitted as follows by (1) The Continental Asphalt Paving Co., 42 Broadway; (2) John Cornwell, Jr., 69 East 127th St.; (3) John J. Hart Co., Broadway and 175th st.; (4) W. J. Flanagan, Yonkers, N. Y.; (5) Williams Engineering & Contracting Co., 13 Park Row; (6) Borough Construction Co., 44 Court St., Brooklyn; (7) Frank Bradley, Broadway and [illegible] St.:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
11,100 tons straight cast-iron bell and spigot pipe	$32.00	$40.00	$44.00	$34.00	$35.50	$38	$36.00
125 tons cast-iron spec. castings, Class A	100.00	110.00	120.00	112.00	121.00	115	110.00
425 tons cast-iron spec. castings, Class B	90.00	100.00	75.00	71.00	98.50	103	100.00
525 tons cast-iron spec. castings, Class C	65.00	90.00	75.00	71.00	95.50	90	95.00
10 tons cast-steel spec. castings, Class A	240.00	220.00	200.00	230.00	255.00	235	250.00
105 tons cast-steel spec. castings, Class B	220.00	215.00	200.00	230.00	240.00	186	250.00
230 tons miscell. cast-iron castings	55.00	60.00	70.00	65.00	65.00	49	60.00
12,700 lin. ft. 24-in. delivery pipe	1.75	1.60	1.50	1.00	1.30	1	1.35
9,500 lin. ft. 20-in. delivery pipe	1.35	1.50	1.35	.90	1.25	1	1.25
22,000 lin. ft. 16-in. delivery pipe	1.05	1.40	1.25	.80	1.15	[illegible]	1.20
53,000 lin. ft. 12-in. delivery pipe	.70	1.20	1.20	.70	1.10	[illegible]	1.10
9,500 lin. ft. 8-in. delivery pipe	.50	1.00	1.10	.60	1.00	[illegible]	1.00
350 lin. ft. 6-in. blow-off pipe	2.25	1.20	2.00	1.00	1.40	1.50	1.50
100 lin. ft. 36-in. low pressure water pipe	.40	.60	.70	.50	.48	[illegible]	.75
100 lin. ft. 30-in. low pressure water pipe	1.50	1.00	1.80	1.00	1.45	1	1.35
100 lin. ft. 24-in. low pressure water pipe	1.25	.90	1.60	1.00	1.25	1	1.30
100 lin. ft. 20-in. low pressure water pipe	1.00	.80	1.25	1.00	1.20	.96	1.20
100 lin. ft. 16-in. low pressure water pipe	.75	.60	1.20	1.00	1.10	.72	1.10
1,100 lin. ft. 12-in. low pressure water pipe	.60	.50	1.05	.75	.95	.60	1.00
100 lin. ft. 8-in. low pressure water pipe	.50	.40	1.00	.75	.75	.48	.90
500 lin. ft. 6-in. low pressure water pipe	.50	.30	.60	.50	.70	.36	.75
65,000 lbs. wrought iron work, exclusive of bolts in flange joints	.05	.05	.05	.05	.04½	.08	.06
204,000 lbs. rolled steel shapes and reinforcing steel	.06	.05	.05	.05	.05	.05	.06
69 20-in. gate valves	300.00	300.00	325.00	250.00	295.00	324.00	300.00
87 16-in. gate valves	205.00	250.00	275.00	200.00	190.00	175.32	200.00
220 12-in. gate valves	120.00	200.00	130.00	115.00	115.00	104.00	135.00
480 8-in. gate valves	50.00	100.00	70.00	60.00	52.00	55.80	60.00
18 6-in. gate valves	30.00	50.00	60.00	50.00	38.00	34.80	40.00
66 20-in. gate valves	10.00	30.00	30.00	15.00	18.00	18.00	35.00
82 16-in. gate valves	10.00	25.00	25.00	15.00	16.00	18.00	30.00
211 12-in. gate valves	7.50	15.00	20.00	12.50	11.00	14.40	20.00
470 8-in. gate valves	5.00	10.00	15.00	10.00	9.00	12.00	10.00
17 6-in. gate valves	5.00	6.00	12.00	10.00	6.00	7.20	10.00
470 4-nozzle post hydrants, inc. lead-lined waste pipe con. with sewer	12.00	25.00	25.00	15.00	15.00	14.40	15.00
151,600 cu. yds. earth excavation and backfilling	1.05	.70	1.65	1.50	1.50	1.32	2.00
100 cu. yds. rock excavation and backfilling	5.00	5.00	2.50	10.00	4.00	3.84	5.00
10 cu. yds. rock excavation without blasting	10.00	20.00	10.00	,20.00	4.00	10.00	10.00
6,000 cu. yds. masonry excavation	4.00	3.00	5.00	4.00	3.75	3.60	5.00
225 cu. yds. brick masonry	14.00	16.00	20.00	17.50	15.00	16.00	15.00
10 cu. yds. rubble masonry	6.00	6.00	10.00	6.00	5.00	8.00	7.50
1,800 cu. yds. concrete masonry (1-3-6)	7.00	7.00	10.00	8.00	8.50	7.00	7.50
140 cu. yds. concrete masonry (1-3-5)	8.00	8.00	10.00	9.00	8.00	7.00	8.00
750 sq. yds. asphalt pav., inc. concrete base	4.00	4.50	4.00	4.25	3.75	4.00	4.50
8,600 sq. yds. asphalt pav., inc. stone block base	3.75	4.00	4.00	3.75	3.75	3.25	4.00
24,100 sq. yds. granite block pav., inc. concrete base	2.00	2.00	1.00	2.25	2.40	2.00	2.50
21,050 sq. yds. stone block pav., inc. sand base	.75	.60	.80	.65	1.60	1.30	2.00
3,500 sq. yds. wooden block pav., inc. concrete found	4.00	4.50	4.00	4.00	3.80	3.00	4.00
270 sq. yds. bluestone flagging	5.00	2.50	4.00	2.75	2.00	2.10	2.00
100 sq. yds. bluestone flagging, inc. foundation	.70	.60	7.20	.75	.75	1.05	1.00
25 sq. yds. granolithic sidewalk pavement	2.25	2.50	3.00	2.00	1.50	2.10	2.50
1,700 lin. ft. stone curbing, inc. foundation	.30	.10	1.50	.20	.12	.20	.25
550 lin.ft. granolithic curbing, inc. found	1.10	.40	1.50	.40	.45	1.00	.75
5,000 ft. B. M. lumber left in trench by order of engineer	50.00	50.00	100.00	50.00	48.00	40.00	50.00
25 ½-in. corporation cocks	10.00	4.00	4.50	4.00	2.85	4.00	5.00
10 lin. ft. 24-in. delivery pipe to insulate waterproof, complete	5.00	6.00	10.00	3.00	4.50	5.00	4.00
10 lin. ft. 20-in. delivery pipe to insulate and waterproof	4.00	5.00	10.00	3.00	3.50	5.00	3.50
10 lin. ft. 16-in. delivery pipe to insulate and waterproof	3.00	4.00	10.00	3.00	2.50	5.00	3.00
600 lin. ft. 12-in. del. pipe to insulate and waterproof, complete	2.50	3.00	2.00	2.50	2.80	3.50	2.00
575 sq.-yds. 3-ply felt waterproofing, in place	.75	1.00	3.00	1.00	1.00	1.00	1.00
3,700 lin. ft. 6-in. vitrified tile drain pipe	.30	.50	.80	.50	.37	.40	.50
Total	$1,036,242	$1,180,909	$1,318,866	$1,122,022	$1,221,752	$1,168,449	$1,344,877

FIRE SERVICE MAINS.—New York, N. Y.—Bids were received on Dec. 22 for furnishing, delivering and laying high-pressure water mains in Middle District, as follows; (1) Borough Construction Co.; (2) Continental Asphalt Paving Co.; (3) John J. Hart Co.; (4) Frank Bradley; (5) William Flanagan; (6) John Cornwell.

	(1)	(2)	(3)	(4)	(5)	(6)
9,700 tons straight cast-iron bell and spigot pipe	$38.40	$32.00	$42.00	$35.00	$34.00	$40.00
90 tons cast-iron spec. castings, Class A	115.20	100.00	120.00	110.00	112.00	110.00
325 tons cast-iron spec. castings, Class B	103.20	90.00	75.00	100.00	71.00	100.00
460 tons cast-iron spec. castings, Class C	90.00	65.00	75.00	95.00	71.00	90.00
10 tons cast-steel spec. castings, Class A	235.20	240.00	200.00	250.00	230.00	220.00
80 tons cast-steel spec. castings, Class B	186.20	220.00	200.00	250.00	230.00	215.00
210 tons miscell. cast-iron castings	49.20	55.00	65.00	60.00	65.00	60.00
7,800 lin. ft. 24-in. delivery pipe	1.33	1.75	1.40	1.35	1.00	2.00
9,500 lin. ft. 20-in. delivery pipe	1.10	1.35	1.35	1.25	.90	1.60
17,000 lin. ft. 16-in. delivery pipe	.99	1.05	1.25	1.20	80	1.40
59,000 lin. ft. 12-in. delivery pipe	.79	.70	1.15	1.10	.70	1.20
9,000 lin. ft. 8-in. delivery pipe	.70	.50	1.10	1.00	.60	1.00
250 lin. ft. 6-in. blow-off pipe	.59	.40	.70	.60	.50	.50
100 lin. ft. 36-in. low pressure water pipe	1.50	2.25	2.00	1.50	1.00	1.20
100 lin. ft. 30-in. low pressure water pipe	1.44	1.50	1.80	1.35	1.00	1.00
100 lin. ft. 24-in. low pressure water pipe	1.20	1.25	1.60	1.30	1.00	.90
100 lin. ft. 20-in. low pressure water pipe	.96	1.00	1.25	1.20	1.00	.80
100 lin. ft. 16-in. low pressure water pipe	.72	.75	1.20	1.10	1.00	.60
500 lin. ft. 12-in. low pressure water pipe	.60	.60	1.05	1.00	.75	.50
100 lin. ft. 8-in. low pressure water pipe	.48	.50	1.00	.90	.75	.40
300 lin. ft. 6-in. low pressure water pipe	.36	.50	.60	.75	.50	.30
55,000 lbs. wrought iron work, exclusive of bolts in flange joints	.08	.05	.05	.06	.05	.05
176,000 lbs. of rolled steel shapes and reinforced steel	.05	.06	.05	.06	.05	.05
53 20-in. gate valves	324.00	300.00	325.00	300.00	250.00	300.00
50 16-in. gate valves	175.32	205.00	275.00	200.00	200.00	250.00
250 12-in. gate valves	104.00	120.00	130.00	135.00	115.00	200.00
450 8-in. gate valves	55.80	50.00	70.00	60.00	60.00	100.00
12 6-in. gate valves	34.80	30.00	60.00	40.00	50.00	50.00
50 20-in. gate valves	18.00	10.00	30.00	35.00	15.00	40.00
47 16-in. gate valves	18.00	10.00	25.00	30.00	15.00	30.00
242 12-in. gate valves	14.40	7.25	20.00	20.00	12.50	20.00
444 8-in. gate valves	12.00	5.00	15.00	10.00	10.00	15.00
11 6-in. gate valves	7.20	5.00	12.00	10.00	10.00	8.00
444 4-nozzle post hydrants, inc. lead-lined waste pipe con. with the sewer	14.40	12.00	25.00	15.00	15.00	30.00
145,800 cu. yds. earth axcavation and backfilling	1.32	1.00	1.55	1.75	1.50	.50
100 cu. yds. rock excavation and backfilling	3.84	5.00	2.00	5.00	10.00	5.00
10 cu. yds. rock excavation without blasting	10.00	10.00	10.00	10.00	20.00	20.00
2,900 cu. yds. masonry excavation	3.60	4.00	5.00	5.00	4.00	3.00
200 cu. yds. brick masonry	16.00	14.00	20.00	15.00	17.50	16.00
10 cu. yds. rubble masonry	8.00	6.00	10.00	8.00	6.00	6.00
1,700 cu. yds. concrete masonry (1-3-6)	7.00	7.00	10.00	7.50	8.00	7.00
50 cu. yds. concrete masonry (1-3-5)	7.00	8.00	10.00	9.00	$.00	9.00
2,350 sq. yds. asphalt pavement, inc. concrete base	4.00	4.00	4.00	4.50	4.25	4.50
22,150 sq. yds. asphalt pavement, inc. a stone block base	3.25	3.60	3.00	4.00	3.75	4.00
14,350 sq. yds. granite block pavement, inc. concrete base	2.00	2.00	2.00	2.50	2.25	2.00
22,250 sq. yds. stone block pavement, inc. a sand base	1.30	.75	.80	2.00	.65	.60
10 sq. yds. wooden block pavement, inc. concrete foundation	3.00	4.00	4.00	4.00	4.00	4.50
225 sq. yds. bluestone flagging to furnish & set in hydrant vaults	2.10	5.00	4.00	2.00	2.75	2.50
100 sq yds. bluestone flagging, inc. foundation	1.05	.70	7.20	1.00	.75	.60
25 sq. yds. granolithic sidewalk pavement	2.10	2.25	3.00	2.50	2.00	2.50
1,500 lin. ft. stone curbing, inc. foundation	.20	.30	1.50	.25	.20	.10
650 lin. ft. of granolithic curbing, inc. foundation	1.00	1.10	1.50	.75	.40	.40
5,000 ft. B. M. lumber left in trench by order of engineer	40.00	50.00	100.00	50.00	50.00	50.00
25 ½-in. corporation cocks	4.00	10.00	4.50	5.00	4.00	4.00
10 lin. ft. 24-in. del. pipe to insulate and waterproof, complete.	5.00	5.00	10.00	4.00	3.00	6.00
100 lin. ft. 20-in. del. pipe to insulate and waterproof	5.00	4.00	10.00	3.50	3.00	5.00
120 lin. ft. 16-in. del. pipe to insulate and waterproof	5.00	3.00	10.00	3.00	3.00	4.00
180 lin.ft. 12-in. del. pipe to insulate and waterproof	3.50	2.50	2.00	2.00	2.50	3.00
225 sq. yds. of three-ply felt waterproofing	1.00	.75	5.00	1.00	1.00	1.00
3,500 lin.ft. 6-in. vitrified tile drain pipe	.40	.30	.80	.50	.50	.50
Total	$1,048,052	$917,330	$1,162,784	$1,170,220	$1,008,390	$1,047,153

FIRE SERVICE MAINS.—New York, N. Y.—Bids received on Dec. 22 for laying high-pressure water mains in Northern District were as follows; (1) John J Hart Co.: (2) Gallo & Pittelli, 127 Mulberry St.; (3) Clinton Beckwith, 49 West 27th St.; (4) Frank Bradley; (5) Borough Construction Co.; (6) W. J. Flanagan; (7) John Cornwell, Jr.; (8) Continental Asphalt Paving Co.:

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
9,900 tons straight cast-iron bell and spigot pipe	$40.00	$38.00	$40.00	$33.00	$38.40	$34.00	$40.00	$32.00
80 tons cast-iron spec. castings, Class A	120.00	125.00	100.00	100.00	115.20	112.00	110.00	100.00
275 tons cast-iron spec. castings, Class B	75.00	125.00	100.00	90.00	103.20	71.00	100.00	90.00
410 tons cast-iron spec. castings, Class C	75.00	90.00	85.00	65.00	90.00	71.00	90.00	65.00
10 tons cast-steel spec. castings, Class A	200.00	220.00	250.00	220.00	235.20	230.00	220.00	240.00
90 tons cast-steel spec. castings, Class B	200.00	220.00	200.00	220.00	186.20	230.00	215.00	220.00
160 tons miscellaneous cast-iron castings	60.00	80.00	50.00	65.00	49.20	65.00	60.00	55.00
14,800 lin. ft. 24-in. delivery pipe	1.30	2.00	1.25	1.30	1.33	1.00	2.00	1.75
11,600 lin. ft. 20-in. delivery pipe	1.25	1.75	1.25	1.20	1.10	.90	1.60	1.35
8,100 lin. ft. 16-in. delivery pipe	1.20	1.50	1.25	1.10	.99	.80	1.40	1.05
44,500 lin. ft. 12-in. delivery pipe	1.05	1.25	1.00	1.00	.79	.70	1.20	.70
7,300 lin. ft. 8-in. delivery pipe	1.00	1.00	.90	.90	.70	.60	1.00	.50
350 lin. ft. 6-in. blow-off pipe	.60	1.50	.50	.75	.59	.50	.50	.40
100 lin. ft. 36-in. low pressure water pipe	2.00	2.00	2.00	1.50	1.50	1.00	1.20	2.25
100 lin. ft. 30-in. low pressure water pipe	1.80	2.00	2.00	1.35	1.44	1.00	1.00	1.50
100 lin. ft. 24-in. low pressure water pipe	1.60	1.60	2.00	1.30	1.20	1.00	.90	1.25
100 lin. ft. 20-in. low pressure water pipe	1.25	1.50	2.00	1.10	.96	1.00	.80	1.00
100 lin. ft. 16-in. low pressure water pipe	1.20	1.50	2.00	1.20	.72	1.00	.60	.75
500 lin. ft. 12-in. low pressure water pipe	1.05	1.00	2.00	1.00	.60	.75	.50	.60
100 lin. ft. 8-in. low pressure water pipe	1.00	.75	1.00	.90	.48	.75	.40	.50
300 lin. ft. 6-in. low pressure water pipe	.60	.50	1.00	.75	.36	.50	.30	.50
45,000 lbs. wrought iron work, exclusive of bolts in flange joints	.05	.05	.05	.06	.08	.05	.05	.05
123,000 lbs. of rolled steel shapes and reinforced steel	.05	.05	.05	.06	.05	.05	.05	.06
83 20-in. gate valves	300.00	300.00	285.00	300.00	324.00	250.00	300.00	300.00
25 16-in. gate valves	250.00	190.00	200.00	200.00	175.22	200.00	250.00	205.00
140 12-in. gate valves	125.00	115.00	100.00	135.00	104.00	115.00	200.00	120.00
365 8-in. gate valves	70.00	70.00	60.00	60.00	55.80	60.00	100.00	50.00
18 6-in. gate valves	50.00	40.00	35.00	40.00	34.80	50.00	50.00	30.00
80 20-in. gate valves	25.00	27.00	25.00	35.00	18.00	15.00	40.00	10.00
22 16-in. gate valves	20.00	25.00	20.00	30.00	18.00	15.00	30.00	10.00
134 12-in. gate valves	18.00	20.00	12.50	20.00	14.40	12.50	20.00	7.50
358 8-in. gate valves	12.00	10.00	10.00	10.00	12.00	10.00	15.00	5.00
16 6-in. gate valves	12.00	8.00	7.50	10.00	7.20	10.00	8.00	5.00
358 4-nozzle post hydrants, inc. lead-lined waste pipe con. with the sewer	20.00	15.00	20.00	15.00	14.40	15.00	30.00	12.00
127,400 cu. yds. earth excavation and backfilling	1.30	1.70	1.50	1.50	1.32	1.40	.40	.95
500 cu. yds. rock excavation and bacfilling	4.00	6.00	4.00	5.00	3.84	10.00	5.00	5.00
10 cu. yds. rock excavation without blasting	10.00	15.00	20.00	10.00	10.00	20.00	20.00	10.00
2,300 cu. yds. masonry excavation	4.00	10.00	2.50	3.00	3.60	4.00	3.00	4.00
175 cu. yds. brick masonry	20.00	12.00	15.00	15.00	16.00	17.50	16.00	14.00
10 cu. yds. rubble masonry	10.00	4.00	7.50	8.00	8.00	6.00	6.00	6.00
1,200 cu. yds. concrete masonry (1-3-6)	8.50	7.00	8.00	7.50	7.00	8.00	7.00	7.00
10 cu. yds. concrete masonry (1-3-5)	10.00	8.00	9.00	8.00	7.00	9.00	8.00	8.00
6,450 sq. yds. asphalt pavement	2.80	2.00	4.00	4.00	4.00	4.25	4.50	4.00
27,900 sq. yds. asphalt pavement, inc. stone block base	2.80	2.00	3.00	3.75	3.25	3.75	4.00	3.50
7,100 sq. yds. granite block pavement, inc. concrete base	2.00	2.00	2.00	2.50	2.00	2.25	2.00	2.00
10,700 sq. yds. stone block pavement, inc. a sand base	.40	1.00	.50	2.00	1.30	.65	.60	.75
185 sq. yds. wooden block pavement, inc. concrete foundation	4.00	3.00	4.00	4.00	3.00	4.00	4.50	4.00
200 sq. yds. bluestone flag. to furnish & set in hydrant vaults	4.00	4.00	2.50	2.00	2.10	2.75	2.50	5.00
100 sq. yds. bluestone flagging, inc. foundation	7.20	3.00	2.50	1.00	1.05	.75	.60	70.
25 sq. yds. granolithic sidewalk pavement	3.00	4.00	5.00	2.00	2.10	2.00	2.50	2.25
1,300 lin. ft. stone curbing, inc. foundation	1.50	.02	1.00	.25	.20	.20	.10	.30
400 lin. ft. of granolithic curbing, inc. foundation	1.50	.60	1.25	.75	1.00	.40	.40	1.10
5,000 ft. B. M. lumber left in trench by order of engineer	100.00	30.00	40.00	50.00	40.00	50.00	50.00	50.00
25 ½-in. corporation cocks	4.50	1.00	2.50	4.00	4.00	4.00	4.00	10.00
10 lin. ft. 24-in. del. pipe to insulate and waterproof complete	10.00	10.00	2.50	4.00	5.00	3.00	6.00	5.00
10 lin. ft. 20-in, del. pipe to insulate and waterproof	10.00	1.00	2.50	3.50	5.00	3.00	5.00	4.00
10 lin. ft. 16-in. del. pipe to insulate and waterproof	10.00	1.00	2.50	3.00	5.00	3.00	4.00	3.00
10 lin. ft. 12-in. del. pipe to insulate and waterproof	10.00	10.00	2.00	2.00	3.50	2.50	3.00	2.50
10 sq. yds. of three-ply felt waterproofing	5.00	2.00	4.50	1.00	1.00	1.00	1.00	.75
3,500 lin. ft. 6-in. vitrified tile drain pipe	.80	.50	.50	.40	.40	.50	.50	.30
Total	$1,000,087	$1,065,384	$1,026,237	$995,872	$991,611	$946,085	$986,463	$870,710

MEXICO.

(Continued from page 16.)

RUBBER FACTORY.—Torreon, Coahuila.—It is reported that John D. Rockefeller, Jr., is heavily interested in the Continental Rubber Mfg. Co. which is erecting a plant here for the purpose of manufacturing rubber from the Guayule plant.

WIRE FACTORY.—San Luis Potosi, San Luis Potosi.—It is announced by Henry Deutz, of the firm of Deutz Bros., who own and operate a wire nail factory at this place that he has interested American capitalists in the establishment of a large factory here for the manufacture of wire. He says that in the event of the factory being established, which now seems assured, only iron and steel manufactured in Mexico will be used.

FLOUR MILL.—Celaya.—A large flour mill with a capacity of 700 bbls. daily, is to be built at Celaya, state of Guanajuato. The mill will be provided with the most modern machinery, which will be contracted for, at an early date, in the United States. Among the appurtenances will be several steel storage tanks of an aggregate capacity of 200,000 bushels. The latest appliances for mechanically unloading, conveying, elevating and blending the grain will be installed. The plant will be the largest flour mill in the republic. Among the directors of the company will be Sebastian Camacho, President of the National Bank, Manuel Pareda, General Manager of the same bank, Jose Castellot, Managing Director of the International Financial Association, Emilio Mayers, President of the Board of Directors of the International Banking Corporation, all of the City of Mexico, and Charles M. Johnson, Manager of the Mexican branch office of Nordyke & Marmon Co., of Indianapolis, Ind.

ELECTRIC POWER PLANT.—Parral, Durango.—The organization of a company which will have a capital stock of $10,000,000 is now being perfected for the purpose of installing in this mining district one of the largest electric power and transmission plants in Mexico. Leopoldo Iwonskey, the general representative of the firm of Stallforth Hermanos, Sucs. of Parral, is promoting the enterprise. American and German capitalists are interested in the project. Mr. Iowonskey has gone to New York and Germany to confer with the interested parties in regard to the details of the project, it is reported. The contract will soon be let for installing the plant. It will be located between Parral and Minas Nuevas. The power will be generated by mountain streams. A survey has already been made for the proposed plant. Transmission lines will be built to convey the electric current to Parral and the numerous mines of the district. The company has just closed a deal for the purchase of an extensive tract of timber land situated adjacent to the site of the proposed plant.

RAILROAD.—Mexico City, Mex.—A railroad concession was issued Dec. 25 to Richard Honey, the Pres. and Mgr. of the International and Mortgage Bank, of the City of Mexico. The concession is for a trunk line from the city of Pachuca, capital of the state of Hidalgo, to the port of Tampico, in the state of Tamaulipas. The towns of Zimapan, Actopan or Ixmiquilpan, in the state of Hidalgo, will be on the line. The concession is for the term of 99 years. The surveys must commence within six months, and at least ten kilometers of the road be finished within two years and six months, and for each succeeding year at least 20 kilometers must be completed, so that the line will be in operation between Pachuca and Zimapan within nine years. The dates for the extension to Tampico are to be arranged hereafter between the department of communications and the concessionaire.

ROLLING STOCK.—City of Mexico.—The Mexican Central Railroad Co. is in the market for 1,000 freight cars. The cars will be equally divided between box and gondola pattern, which will be for handling coal and ore, and all will be of the largest and heaviest types used, and will be equipped with air hose. As the company is in urgent need of these cars, it is expected the contract will be awarded to the manufacturer who can guarantee the earliest delivery. The purchase of these cars will be made by the purchasing department of the road, located in New York. J. J. Maguire, 25 Broad St., New York, is Purchasing Agt.

The Mexican Central Railroad Co. has contracted with the BARNEY & SMITH CAR BUILDING CO. for 20 new passenger coaches of the latest patterns, and with the AMERICAN CAR & FOUNDRY CO. for 15 water cars.

FOREIGN CONTRACTS.

The names of parties awarded contracts are printed in capital letters.

(To insure prompt attention, letters upon consular business should be addressed to the American Consul at ———, ———. Such letters are opened and attended to by the person who happens to be in charge of the office. If addressed to the consul by name they are forwarded to him unopened if he should be absent, and a delay thus intervenes; if he should in the meantime have gone out of office they may wholly escape attention.)

ELECTRIC LIGHTING. — Fraserburgh, Scotland.—It is proposed to expend about $40,000 on electric lighting.

REFUSE DESTRUCTOR, ETC.—Dunoon (Argyleshire), Scotland.—Town Council is considering a plan to build a refuse destructor and electric power plant at an approximate cost of $50,000.

SEWAGE DISPOSAL.—Huddersfield, England.—Bids may shortly be called in connection with the sewage-disposal scheme prepared by the borough engineer, K. F. Campbell, which is estimated to cost $650,000.

RIVER IMPROVEMENTS.—Newport, England.—The Harbor Commissioners have approved a bill to be promoted in Parliament next session with regard to spending $300,000 for improving the navigation of the River Usk.

RAILWAY.—Brazil.—The Ministry of Industry, Ways of Communication and Public Works, at Rio de Janerio, has sanctioned the expenditure of 20,000 milreis ($10,920) on plans for the construction of a railway between S. Luiz and Caxias, Province of Maranhao.

SUPPLIES.—Hong Kong, China.—We are informed by W. M. Holmes, Mgr. Oriental Construction Co., Hong Kong, that it will be in the market for concrete mixers, concrete block machines, conveyors, crushers, derricks, ditchers, filters, pumps, riveters and other equipment.

ELECTRIC PLANT.—Argentine Republic.—Senores Agar Cross y Ca, of Buenos Aires, have arranged a contract with the municipality, under which they will install a complete electric light power plant in that city. It is reported that they will be purchasers of materials and supplies, catalogues of which are desired.

RECLAMATION. — Canton, China. — There is a movement on foot in Canton, China, which has for its object the raising of funds for reclamation works. It is estimated that from Chin-Loong-How to the Loong-Mo Temple, 10,000 tseng (Chinese acres) of land could be reclaimed and another 10,000 tseng from the Loong-Mo Temple to Wongsha. The total amount of money which this scheme is expected to realize is $2,000,000. Robert M. McWade is American Consul at Canton.

WATER-WORKS AND IRRIGATION.—Hankow, China.—Viceroy Chang Chih-tung has raised Tls. 7,000,000 ($4,700,000) from the Hong-kong and Shanghai Banking Corporation, and Tls. 3,000,000 have already been paid, besides which the viceroy has received Tls. 1,000,000 with the object of establishing water-works for Hankow. The construction of this plant has often been attempted but failed, owing to the difficulty of raising funds. Levi S. Wilcox is the American Consul at Hankau.

ELECTRIC PLANTS.—Chile.—Don Enrique A. Finn has been granted a concession for supplying the city of Los Andes with electric, heat and motive power. A decree is announced granting a similar concession for the City of San Carlos to Don J. Enrique Conchar, Don Domingo V. Santa Maria, and Don Raul Claro Solar. Also a decree granting a similar concession for Antofagasta to Don Julio Pinkas, representing the Antofagasta Electric Lighting Co. Also a decree granting a similar concession for Buin and Linderos to Don Enrique Lanz. The duration of the concession in each case is fixed at ten years.

RAILWAYS.—Bolivia.—The proposition submitted by New York capitalists for the construction of railways in Bolivia has been rejected by the Congress now in session at La Paz. W. L. Sisson, formerly Ch. Engr.-in-Charge of the surveys, has been relieved and Señor Don Jorge E. Zalles, formerly Secretary to the Bolivian Legation, at Washington, D. C., has been placed in charge of matters financial, and Wm. L. Gibson, C. E., appointed Asst. Ch.-Engr.-in-Charge of the engineering and technical work. It is said that it is assured that under the management of these two engineers the surveys and construction of the railways will be carried on by the government to a considerable extent without the aid of foreign capitalists.

WATER SUPPLY.—Penang, Straits Settlements. — The Municipal Engineer of Penang, L. M. Bell, reported recently on the proposed additional water supply there for Batu Ferringgi and other streams at the northern end of Penang Island. The report deals practically with three districts—Tanjong Bungah, Batu Ferringgi and Telok Bahang. After giving comprehensive details concerning various streams and sources of supply, the engineer shows that the Sungei Klean, in the Tanjong Bungah district is the cheapest and most expedient source of tiding over the present difficulty. The present supply may be put down at 4,500,000 gallons daily. According to one estimate from Sungei Klean an additional supply of 1,000,000 gallons per day, costing 6 cts. per 1,000 gallons, may be obtained, the capital cost being $230,000. It would be possible to lead the supply from Sungei Klean into the waterfalls. This is the cheapest recommendation. If the municipality wishes to provide for the future, too, it may take up the Batu Ferringgi scheme, giving an addition of 2,983,000 gallons, costing 11 cts., the capital cost being $1,853,000. Between these schemes there are two modifications.

RAILWAY.—Costa Rica.—John C. Caldwell, American Consul at San Jose, Costa Rica, states that the report of the engineers appointed to survey a route for the completion of the Pacific Railway has been presented to the Government. The report recommends the extension of the line from its present terminus at Santo Domingo de San Mateo to Esparta, to connect with the road from that point to Puntarenas. The distance to be covered is, according to the plans presented, 21 miles. It is proposed to relocate four miles of the line between Esparta and Puntarenas,, straightening curves and reducing grades. This makes a total of 25 miles. The estimated cost is $32,550 per mile, or a total cost of $813,750. In addition, it is proposed to construct a branch from a point on the line already built to Alajuela, a town 13½ miles west of San Jose and terminus of the railroad to the Atlantic coast, giving that town more direct connection with the Pacific. The length of the proposed branch is four miles and the estimated cost $60,450. This sum added to the above estimate brings the total up to $874,200. The permanent commission of the Congress of Costa Rica, authorized to pass laws in the intervals of sessions of Congress subject to the approval of that body at its next session, by decree of Nov. 22 has authorized the executive power, whenever deemed expedient, to proceed with the construction of the lines above referred to, and for that purpose to make use of the national credit for an internal loan not exceeding $930,000, at a rate of interest not exceeding 8% per annum.

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CIVIL SERVICE EXAMINATIONS

ELECTRICAL ENGINEER AND INSTRUCTOR.—Washington, D. C.—The U. S. Civil Service Commission announces an examination on Jan. 24, 1906, to fill a vacancy in the position of electrical engineer and instructor in the Engineer School, U. S. Army, Washington Barracks, D. C., at $1,500 per annum. Age limit, 21 to 35 years. Applicants should apply for form 1312.

INK CHEMIST AND INK MAKER.—Washington, D. C.—The U. S. Civil Service Commission announces an examination on Jan. 31, 1906, to fill a vacancy in the position of ink chemist and ink maker in the Bureau of Engraving and Printing at $2,000 per annum. Age limit, 20 years or over. Applicants should apply for form 304 and special vouchers.

LABORATORY ASSISTANT.—Washington, D. C.—The U. S. Civil Service Commission announces an examination on Jan. 31, 1906, to fill a vacancy in the position of laboratory assistant (qualified in practical optics and skilled in such work as glass grinding and lens making), at $1,000 per annum, in the Bureau of Standards. Applicants must show in their applications that they have had at least five years' practical experience in glass grinding and the construction of lenses and plane surfaces. Age limit, 20 to 35 years. Applicants should apply for form 1312.

MARINE FIREMAN.—Washington, D. C.—The U. S. Civil Service Commission announces an examination on Jan. 24, 1906, to fill three vacancies in the position of marine fireman in the Quartermaster's Department at Large—one at $780 per annum, Fort Stevens, Ore., steamer "Major Guy Howard," and two at $900 per annum each, San Francisco, Cal., steamer "Gen Mifflin." Age limit, 20 years or over. Applicants should apply for form 1003.

ENGINEERING DRAFTSMAN. — Chicago, Ill.—The Civil Service Commission of Chicago announces that an examination to fill vacancy in position of engineering draftsman will be held Jan. 26, 1906. The Commission states that applicants should be able to prepare plans and make estimates and specifications for such work as tunnels, water-works, cribs, breakwaters, new sewer work and water pipe lines. A thorough knowledge of mathematics and engineering is required, and the salaries range from $1,200 to $1,600 per year. Applications must be filed with the Commission before the date of the examination.

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INDUSTRIAL NOTES.

R. E. HENINGHAM, contractor, has removed his offices to 1 Madison Ave., N. Y., from Brooklyn.

A. C. TORBERT & CO., of Chicago, announce their removal from Room 1,518 to Rooms 547-548 Monadnock Block.

THE GOODALL RUBBER CO., INC., has located offices at 153 North 4th St., Philadelphia, and will carry a full line of mechanical rubber goods. F. D. Stovell is Pres.

CLAUSSEN, BURCH & PILLSBURY, Guaranty Bldg., Minneapolis and St. Paul, have opened offices to carry on an engineering business in hydraulic, steam and electrical engineering.

THE C. A. MFG. CO., Austin, Tex., reports that it has appointed R. H. Morgan, 57 Front St., New York, its eastern sales agent for its C. A. Wood, and has added Salt Lake City to its distributing lists.

THE MARLIN FIREARMS CO., New Haven, Ct., announce the marketing of new Marlin Baby repeating rifle, .22 caliber. This addition is entirely new and will be ready for the market early in January.

THE ELECTRICAL TRADES EXPOSITION CO., Thos. R. Mercein, Gen. Mgr., 464 Monadnock Block, Chicago, Ill., will hold the First Annual Electrical Exposition at the Coliseum in Chicago from Jan 15 to 27, inclusive.

WM. B. SCAIFE & SONS CO., Pittsburgh, Pa., have received the contract for the structural steel work for the new building of the Southern Bell Telephone Co., Atlanta, Ga. A considerable tonnage of steel will be required for the work.

THE PITTSBURG REDUCTION CO. are installing four Morgan continuous gas producers for calcining aluminum ore in their rotary kilns at East St. Louis, Ill. These producers are to replace a battery of the old style hand-fed type.

THE AMERICAN BLOWER CO., Detroit, Mich., reports the past few months as exceptionally busy ones. The order books of the company for heating and ventilating outfits show about 50 schools and public buildings, 30 to 40 manufacturing plants, etc.

THE BLAISDELL MACHINERY CO., of Bradford, Pa., has opened sales offices at 120 Liberty St., New York, and 707 and 708 Lincoln Trust Bldg., St. Louis, Mo. The St. Louis office is in charge of J. A. Prescott, Southern Manager; and the New York office in charge of A. H. Valiquette.

FREDERICK GOETZE, 723 E. 141st St., N. Y., states that the Great Lakes Engineering Works, J. S. Keightly, Purch. Agt., Detroit, has given another order for Goetze's Patent Copper Gaskets. A. C. Smith & Co., of Newburgh, N. Y., has also laid in stock a complete line of these gaskets.

THE POWER & MINING MACHINERY CO. announces that Robt. T. Lozier has been appointed district sales manager of its gas machinery department handling American-Crossley engines, American-Crossley producers, and the Loomis-Pettibone gas producers, with headquarters at 52 William St., N. Y.

THE PENNSYLVANIA CLAY CO., manufacturers of Park & Brody's run standard fire clay paving brick and block, has removed its offices from Rochester, Pa., to Germania Savings Bank Bldg., Pittsburg, Pa. The four factories of this company have an annual capacity of 50,000,000 brick and block.

THE MIDLAND STEEL CO., Cook's Ferry, Pa., has now in course of erection a new machine shop, and other structures will be under way within a very short time. Contract for all the structural steel work in connection with the buildings was awarded to Wm. B. Scaife & Sons Co., Pittsburgh, Pa., and will involve a large tonnage.

The DAVID BELL ENGINEERING WORKS, Buffalo, N. Y., advises that, owing to growing business the company has been obliged to incorporate under the same title as before, but with greatly increased facilities for the manufacture of steam hammers and heavy machinery. The company is now able to supply a full line of steam hammers.

THE INGERSOLL-RAND CO., N. Y., announce that they have secured exclusive control of the product of the Imperial Pneumatic Tool Co., with shops at Athens, Pa. The line of Imperial tools include pneumatic hammers, drills, riveters, reamers, hoists and plug drills. The Ingersoll-Rand Co. are manufacturers also of the Haeseler pneumatic tools.

THE NORTHERN ENG. WORKS, Detroit, states that the new Robb-Mumford Boiler Works of South Framingham, Mass., have installed four electric Northern traveling cranes and rivetter hoists. One of 25 tons capacity, 50-ft. span, 4 motor design, one 5 tons 28-ft. span, 3 motor and two electric rivetter cranes of 30 and 15 tons capacity, with 50-ft. lift.

THE SINGER MFG. CO., Elizabethport, N. J., are equipping all their hand fired gas producers with automatic feeds supplied by the Morgan Construction Co., N. Y. It is expected that the cost of these feeds will be paid for in the savings effected in the fuel and labor during the first year of operation, in addition to making the gas supply uniform in quality and quantity.

THE GRAND TRUNK RAILWAY, Montreal, Que., has placed an order for 81 locomotives, to cost $1,398,000. All of the orders, with the exception of 10 10-wheel passenger locomotives, given to the American Locomotive Co., of New York, go to Canadian firms, the Canadian branch of the American Locomotive Co. securing 65 and the Canada Foundry Co., of Toronto, six.

THE CROCKER-WHEELER CO., Ampere, N. J., reports that its most important achievement in the year 1905 was the entrance into the field of alternating current manufacture. After 17 years' experience in the direct current field, it entered the market with a complete line of alternating current generators, motors, transformers, etc.

F. L. SMIDTH CO., cement engineers and makers of cement machinery, 41 Cortlandt St., New York, have recently taken a contract for 17 of their large size tube-mills for the Pacific Portland Cement Co., Cement, Cal., and another one for 24 kominuters and tube mills for the new plant at Fogelsville, Lehigh Co., Pa., of the Lehigh Portland Cement Co. Three additional kominuters are now being installed at the Mill "B" of the Lehigh Co.

THE STANDARD ROLLER BEARING CO., Philadelphia, Pa., has just started the erection of a brass and iron foundry, 60 × 125 ft., two stories in height. The crucible steel casting plant started in operation last week, the size of this building being 60 × 95 ft.

T. L. SMITH CO., Milwaukee, Wis., reports that it has moved into offices 604-05-06 Merrill Bldg.

THE BELL ENGINEERING & CONSTRUCTION CO. of N. Y. has opened an office in Norfolk, Va., under the management of Mr. Arthur C. Freeman, Jr., an engineer of that city. This is one of the first of the concerns recognized as being identified solely with the design and construction of reinforced concrete to open a Southern office.

THE MACBETH IRON CO., of Cleveland, O., has received an order from the Pennsylvania Lines for four of the "Swedenborg" grab buckets, of one and one-half tons capacity of iron ore, for use on the Pennsylvania ore docks at Sandusky, O. In addition to furnishing these buckets, the Macbeth Iron Co. will rebuild the Excelsior derricks now on this dock, and equip them for the operation of grab buckets.

WATSON & SZLAPKA, Consult. Engrs., 54 Baxter Bldg., Philadelphia, Pa., have been selected to represent the following concerns and individuals in the east: Dayton Hydraulic Machinery Co., manufacturers of the Brooks centrifugal pump; I. Weil, M. E., of Pittsburg, owner of the Weil system of endless rope haulage; Jos. B. Strauss, C. E., of Chicago, Strauss concrete steel bridge and bascule bridge.

THE WEIR FROG CO., of Cincinnati, reports that an important contract has just been placed with it by the Louisville & Nashville R. R., through its general purchasing office in Louisville, it having contracted for the supply of all its frogs and switches for 1906. It is a renewal of a contract held many times by this company, and continuously held since the Weir Co. moved into its new plant at Norwood, one of the suburbs of Cincinnati.

THE FOUNDATION CO., 35 Nassau St., N. Y., has been awarded the contract for the foundations of the building at the corner of Fletcher and South Sts., for G. N. A. Griswold. This will be a six-story building and the foundations are of piling. Also the foundations of a building for the John G. Myers Co., 25 North Pearl St., Albany, N. Y. These foundations will be pneumatic caissons carried to bed rock. It might be interesting to know that this is the building that recently collapsed.

THE DAYTON PNEUMATIC TOOL CO., Dayton, O., manufacturers of the "Green" Pnuematic Hammer, report their business for 1905 as having been most satisfactory. Notwithstanding the fact that there is a tendency toward the end of the year to delay purchases until after the beginning of the new year, an unusually large number of orders was received in December. The company has recently ordered additional machinery for its Dayton works, which will increase their capacity to about 300 hammers per month.

THE ROBINS CONVEYING BELT CO., of New York, has recently secured an order from B. Altman & Co. for conveyors for handling packages at their new store on 5th Ave., N. Y. One of the requirements of this conveyor system is that it will be operated without the least noise. Among other work that the Robins company now has on hand is an order for a large system of conveyors for the Caucasus Copper Co. of Russia, and an order from the Bethlehem Steel Co. for belt conveyor for handling sand at their foundry at South Bethlehem, Pa.

THE WEBER STEEL-CONCRETE CHIMNEY CO., 159 La Salle St., Chicago, reports that Mr. T. M. Simpson, for several years Manager of the Philadelphia office of A. D. Granger & Co., has just been appointed District Sales Manager for the Weber Company, with offices at 1632 Land Title Building, Philadelphia. Mr. Simpson will have charge of the Philadelphia territory and the Atlantic Coast States. Owing to the large increase in its business the company anticipates establishing an office in New York within the next few weeks.

THE WEBER STEEL CONCRETE CHIMNEY CO., Chicago, Ill., announces that Mr. Carl Weber, President, has just returned from Europe. While abroad Mr. Weber organized the Weber Steel-Concrete Chimney Co., Ltd., with offices in Queen Anne's Chambers, Westminster, London, Eng. Managing Director of the European company will be Mr. John Cargill, who was formerly with the British Westinghouse Co., and later London Manager for Milliken Bros., Inc. Mr. Weber also while in London closed contract with Abram Lyle & Sons, London, for a 250 ft. × 20 ft. chimney.

THE ROBINS CONVEYING BELT CO., New York, has recently secured a large order for a series of conveyors for ore bedding purposes for the Garfield Plant of the American Smelting & Refining Co. Among other orders now on hand is one from the Western Engineering & Construction Co., of San Francisco, for a 34-in. conveyor to be installed on a gold dredge in the Oroville District. This conveyor will be equipped with the Robins new style five-pulley troughing idlers. The Robins Company has also received an order from the Pittsburg Reduction Co. for a belt conveyor intended for their East St. Louis works.

MILLIKEN BROS. (Inc.), 11 Broadway, N. Y., state that in connection with the new open hearth steel plant and rolling mill at Staten Island, N. Y., that the contract for the boilers, amounting to 4,000 HP., has been placed with the Babcock & Wilcox Co.; the contract for the electric traveling cranes, of which there are quite a large number, has been placed partly with the Morgan Engineering Co. and partly with Messrs. Manning, Maxwell & Moore, Inc., agents for the Shaw Crane Co. The contract for the large machines for the mills has been placed with the Southwark Foundry & Machine Co., of Philadelphia.

THE MORRIS MACHINE WORKS, Baldwinsville, N. Y., is completing the construction of extensive improvements and enlargements to its plant. The two new shops and the present erecting shop will have a frontage of 150 ft. and a depth of 216 ft. There will be two overhead electric traveling cranes and a 120-in. open side planer. The new electric plant will have a capacity of 50 arc and 300 16-c.p. lamps. This company has a force of employees numbering 250.

THE MILLER-COLLINS CO., New York City, contracting engineers, held their first annual dinner at the Engineers' Club on Saturday, Dec. 30th, which was attended by the entire office and field staff of the company. The afternoon was devoted to a general discussion leading to economical improvements in operating methods, and the perfection of a report system that will simplify as well as promote a still greater proficiency and co-operative spirit in the administration of future work. The repast was taken care of with characteristic energy and spirit, and the evening was devoted to informal "stunts" of various kinds, and wound up with friendly New Year greetings.

FLEXIBLE STEEL ARMORED HOSE.—The use of armored hose, or hose wound with wire to protect it from external injury and increase its strength to resist internal pressure, is familiar to everyone; and it is also fairly well known that several varieties of flexible metal tubing have been devised. These two ideas have been combined by the Sprague Electric Co., of New York City, which is putting on the market a rubber hose protected by a flexible steel armor made up of helically wound concave interlocking steel wires. This armor entirely covers the rubber and affords it a much more complete protection than the ordinary wire winding.

The Allis-Chalmers Co. is doubling the capacity of its immense plant at West Allis, near Milwaukee, Wis. The increased shop space to be devoted to the manufacture of steam turbines and direct-connected electric generators. A specialty is to be made of marine steam turbines for the Great Lakes and the Pacific Coast trade. The Allis-Chalmers Co. are not only licensees under the Parsons marine tuurbine patents, but they also hold the rights for manufacturing the Parsons turbine blowers and compressors, and have recently formed an alliance with the Hon. Chas. A. Parsons, the eminent turbine inventor, for a full co-operation and interchange of data on steam turbines for land operations.

THE DAYTON PURCHASING AGENTS CO., Dayton, Ohio, announces that it has just incorporated a company for the purpose of acting as Purchasing Agent for shops, mills, factories and foundries. It is proposed to contract with firms for the buying of all goods used in connection with the running of their plants, thereby relieving them of expense and worry. It has specialists in each line, namely, iron, steel, coke and fuels, machinery and machine tools, electrical supplies, etc. It is expected to have in a very short time the largest and most complete collection of catalogues, quotations, etc., in this section of the state. It will also make a particular study of the facilities of the firms it buys of, to turn out the goods and make good delivery.

WM. AINSWORTH & SONS, of Denver, Colo., who for upwards of 25 years have been making the "Ainsworth Standard Balances and Weights of Precision," announce that they have taken up the manufacture of engineering, surveying, and astronomical instruments, having added to their already large equipment of all the special machinery, tools, instruments and appliances for their accurate and economical manufacture. They have also, in addition to their staff of workmen, secured the services of several instrument makers from factories and observatories in America and Europe. All parts of their instruments will be made to standard gages and strictly interchangeable. Their bulletin BX 10 illustrates the line now ready for the market.

THE ENGINEERING AGENCY, of Chicago, is undergoing a reorganization and expansion. At the last directors meeting, A. G. Frost, who has been at the head of the organization for four years as Secretary and Manager, was elected Vice-President and Treasurer. Mr. R. D. Smith, who also has been with the company for a number of years, was elected Second Vice-President and General Manager and Mr. Paul W. Herring was elected Secretary. It is the plan of the Agency to start offices immediately in Pittsburg, New York and Denver, besides the present offices in Chicago. Offices will subsequently be opened in all the other larger cities. Experienced engineers of reputation will be placed at the head of each office and of every individual department.

THE NEW YORK ELECTRICAL SHOW at Madison Square Garden, recently, closed its tenth and last day of exhibit of electrical apparatus. Many of the later scientific developments were well illustrated by modern appliances now on the market, placed on exhibition by their respective manufacturers. Prominent among these were the mercury vapor lamp and static current rectifier, wireless telegraph outfit, X-ray apparatus, and the telegraphone, which will reproduce the most delicate sounds. The larger manufacturers of electrical apparatus were not represented among the exhibitors. For the technical man in search of something new the exhibition did not have much to offer, but the general public showed great interest in the application of electricity to everyday life.

THE VULCAN IRON WORKS CO., Toledo, O., reports that the present year will probably show the largest year's business in the history of the company. Many improved machines and high-speed tools have been installed, and the capacity of the works practically doubled. A year ago when the improvement of the Vulcan steam shovel was undertaken the general arrangement of the shops was changed in order that the expected increase in the demand might be supplied to the best advantage. During the time that the improvements were in course of development the company had the building of the old type of steam shovels, and orders were very much delayed. Now that the old shipments are practically all made and with the ability to build the new model Vulcan steam shovels at the rate of almost one a day the company is receiving a largely increased volume of business. The favor with which the new shovel is being received is sufficient to cause the Vulcan management to contemplate even more extensive works.

THE CONCRETE STEEL CO., engineers and contractors for reinforced concrete construction, has been incorporated under the laws of N. Y. The officers are as follows: John F. Havemeyer, of New York, Pres.; A. J. Redway, of Cincinnati, Vice-Pres.; Harry L. McGee, of New York, Secy. and Treas. These gentlemen until recently held their respective positions with the Standard Concrete-Steel Co., but have now organized their own company, and have associated with them as chief engineer Mr. H. C. Miller, M. Am. Soc. C. E. Mr. Miller has had long experience in reinforced concrete work. He is the vice-president of the newly organized Concrete Association, and has engineered and constructed many large concrete buildings. The main office of the company is located at 100 Broadway, New York. In addition to this office, however, the company will operate a western office in Cincinnati, O., under the direction of Mr. A. J. Redway, who is the vice-president of the company. Mr. Miller will be located at 100 Broadway, New York; while the engineering force of the western office will be cared for by Mr. Albert Witte, an engineer. Mr. Witte personally engineered the construction of the 14-story Ingalls Building in Cincinnati, the tallest concrete building in the country. He has also engineered many other pieces of work in reinforced concrete. The company is already at work erecting a large hospital near Cincinnati.

THE FEDERAL RAILWAY SIGNAL CO., 60 Wall St., N. Y., reports the following contracts received during six months ending Oct. 31st: Baltimore & Ohio R. R., at Niles, O., size of mechanical lever machine, 36; Wildwood, Pa., 32; Ravenna, O., 52; Flushing, O., 24; Nova, O., 28; Kent, O., 24; Lowellville, O., 32; Kimmel, Ind., 32; Ripley, Ind., 24. Chicago, Burlington & Quincy and Illinois Central, Christopher, Ill., 20. Chicago Great Western, Rodden, Ill., 12; Winston, Ill., 8. Chicago Terminal Transfer & Chicago and Grand Trunk, Blue Island, Ill., 80. Cincinnati, Hamilton & Dayton and Cincinnati Northern, Carlisle, O., 28. Delaware & Hudson, Fonda Ave. Oneonta, N. Y., 24; Main St., Oneonta, N. Y., 36; D. J. Jct. Delanson, N. Y., 24; Mineral Springs, Pa., 28; Moosic, Pa., 20; East Glenville Jct., N. Y., 20. Delaware & Hudson and Delaware, Lackawanna & Western, Minooka, Pa., 20. Great Northern and Chicago, St. Paul, Minneapolis & Omaha, Oakland, Neb., 40; Dakota City, Neb., 16. Indiana Harbor and Chicago, Indianapolis & Louisville (Monon), St. Johns, Ind., 28. Indiana Harbor and Indiana, Illinois & Iowa, Schneider, Ind., 48. Indiana Harbor and Chicago & Eastern Illinois, Morocco, Ind., 32. Indiana Harbor and Cleveland, Cincinnati, Chicago & St. Louis, Sheff, Ind., 52. Indiana Harbor and Lake Erie and Western, Handy, Ind., 48. Louisville, Henderson & St. Louis and Illinois Central, West Point, Ky., 16. Minneapolis, St. Paul and Sault Ste. Marie and Great Northern, Warren, Minn., 16; Conway, N. D., 16; Ardoch, N. D., 20; and Northern Pacific, Forest River, N. D., 16. Philadelphia & Reading, West Milton, Pa., 32; Harrisburg, Pa., 64; Byberry Road, Pa., 16; Bustleton & Somerton Turnpike, Pa., 16; Crescentville, Pa., 28. Pennsylvania Lines West of Pittsburg, Urbana, O., 24; Hagenbaugh, O., 24; Summit, O., 24.

THE HARBISON-WALKER REFRACTORIES CO., of Pittsburg, Pa., reports the demand for its products as large and constantly increasing. Some of the larger contracts on which it is now shipping or which it has recently completed are as follows: Blast furnaces and stoves—Brick for complete lining for one blast furnace and four stoves, pipe connections, boiler settings, etc., for Midland, Pa.; brick for complete lining for two blast furnaces and eight stoves, pipe connections, boiler settings, etc., for Youngstown, O.; brick for complete lining for one blast furnace and four stoves, pipe connections, boiler settings, etc., for Chicago; brick for three complete furnace linings to Sydney, N. S.; brick for one complete furnace lining to Wharton, N. J.; brick for two complete furnace linings to Bethlehem, Pa.; brick for two complete furnace linings to Buffalo, N. Y.; brick for one complete furnace lining to Detroit; brick for one complete furnace lining to Canal Dover, O.; brick for one complete furnace lining to Sharpsville, Pa.; brick for one complete furnace lining to Harrisburg; brick for complete linings for nine stoves to an eastern iron company. The above orders call for approximately 17,125,000 brick. Bee Hive coke ovens—1,700,000 brick for the territory of N. Mex.; 1,000,000 brick for the Connellsville Basin Coal & Coke Co.; 700,000 brick for the W. Va. Coal & Coke Co.; 200,000 brick for the Perry Coke Co.; 1,000,000 brick for the Wash. Coal & Coke Co. By product coke ovens—2,500,000 brick for the Harrisburg district. Also many other orders from cement manufacturers, including one for complete linings for 15 rotary kilns for Kansas and Texas. The company is also experiencing a large demand for Silica brick for open-hearth steel furnaces, glass furnaces, copper furnaces, etc., and Magnesite and Chrome brick from open-hearth steel works, copper works, etc., and also a large run of carload orders from regular consumers for all classes of refractory materials. As contracts for refractory material are usually placed considerably in advance of the date of completion of plants, the Harbison-Walker Refractories Co. is in a favorable position to judge of the possibilities and prospects for the future. The very large demand for refractory material is an excellent indication of an active state of business for some time to come.

THE CALIFORNIA GAS & ELECTRIC CORPORATION had closed contract with the Pelton Water Wheel Co., San Francisco, for a 10,000-HP. water wheel unit to be located at the Deer Creek Station, forming a part of their system of electric distribution. This establishes a record, as there has never before been built an impulse wheel of such capacity. The unit in question is to operate under an effective head of 765 ft. and will be direct connected to a 5,500 KW. 300 R. P. M. generator. The "double overhung" type of construction, which is typical of Pelton apparatus, will be employed, and the unit will consist of 2 Pelton wheels, one mounted on each overhanging end of a single shaft, which carries the rotor of the engine type generator. Some idea of this unit will be gained by noting that the motor of the generator will weigh in excess of 45,000 lbs. and will be carried by a hollow nickel steel shaft 20 ins. in diameter. This implies very severe strains on the moving elements, and the journals and supports are correspondingly heavy. The wheel centers will be of disc construction of open hearth steel, and fitted with steel buckets secured to the rim by means of turned steel bolts hydraulically pressed into reamed holes. All pressure parts, such as gates, nozzles and connections will be of cast steel. The gate valves, of the single disc Pelton type, will be provided with roller bearings to take the thrust from the nickel steel spindles, and the valves will be normally operated by electric motors with provision for hand control when necessary. But a few years ago 1,000-HP. was considered as the limit of capacity for an impulse wheel. The Pelton Water Wheel Co. report having closed a contract with the Vancouver Power Co., of Vancouver, B. C., for water wheel, consisting of a 3,000-HP. Pelton unit of the "double overhung" type, direct connected to a 1,500 KW. 200 R. P. M. generator, operating head being 390 ft. In 1903 the Pelton Company furnished three units of exactly similar construction and capacity for this same company, and the power-house is arranged for the reception of two additional units, providing for a total overload capacity of 15,000 HP. In addition to the water wheel equipment, the Pelton Water Wheel Co. has received contract for the pipe line, consisting of approximately 1,050 ft. of pipe, varying from 48 in. diameter, 9-32 ins. to 42 ins.-17-32 ins. in thickness. This pipe is furnished from the eastern works of the company, and the contract calls for the material delivered and installed in place. The Columbus Consolidated Mining Co., of Utah, has duplicated its order for a 750-HP. Pelton wheel, the original of which was installed two years ago; while the United Light & Power Co., of Georgetown, Colo., is installing another 1,000-HP. Pelton unit, this being the second order received from the above company within the last three years. The Fremont Power Co., of Washington, has ordered two Pelton wheels for direct connection to 400 KW. generators. A recent contract with the Northwest Light & Power Co., of North Yakima, Wash., covers a Pelton unit for driving a 350 KW. generator.

THE NATIONAL WOOD PIPE CO., of Los Angeles, has sent us the following: The new Walton Villa tract near Compton, Cal., has just been piped throughout with 3-in. bored fir pipe made by the National Wood Pipe Co. at its Olympia factory. This pipe is bored from a solid log, the bark and sap being first turned off from the outside, and it is then banded with 1 in. flat steel spaced according to the pressure for which the pipe is to be used. The entire outer surface is coated with a preservative preparation consisting of tar and sawdust. This pipe comes in 8-ft. lengths. Work has just been commenced at Preston, Ida., on a 60-in. continuous stave pipe for the Oneida Irrigation district. This pipe will be made from 3 × 6 fir staves banded with ⅝ and ¾ in. round steel bands, held in place by malleable iron shoes, the ends being connected by means of Wheeler Patent oak tongues. This pipe line will be built across Bear River on a steel bridge built purposely to carry the pipe only. This pipe line will be used as an inverted syphon and the pressures will range from 300 ft. down to 20 ft., most of the pipe being under the highest pressure. The Los Alamitos Sugar Co., of Los Alamitos, Cal., J. Ross Clark, President, has just awarded a contract to the National Wood Pipe Co. for two miles of 18 in. machine banded redwood water pipe. This line will be used in connection with a centrifugal pump for the purpose of conveying the waste water from the sugar factory to adjacent lands for irrigation purposes. This pipe will be made from 1½ × 4 redwood staves banded with No. 0 galvanized rod coated with asphaltum and held in place by malleable iron clips. The pipe will be made in random lengths ranging from 10 to 20 ft., and the joints will be connected by means of cast iron collars. All fittings will be cast iron and a number of 12-in. low pressure irrigation hydrants will be installed. The Huntington Beach Co., Huntington Beach, Cal., has just installed a mile of 8-in. machine banded pipe made from 1½ × 4 fir staves. This pipe is banded with heavy galvanized rod coated with asphaltum, and held in place by means of malleable iron clips. The joints are connected by means of cast iron collars and the lengths range from 10 to 20 ft. This pipe is made for pressure of 86 lbs. per sq. in. Until quite recently all wood pipe used in California has been made from redwood, that being the native wood. In the north and northwestern part of the U. S. miles and miles of pipe is in use, made entirely from fir lumber, and in this section you can find pipe in use to-day in perfect condition which was made and installed over 30 years ago. The city of Puyallup, Wash., has just installed 5 miles of 14-in. machine banded fir stave pipe made for a pressure of 100 lbs. per sq. in. This pipe was made by the Olympia factory of the National Wood Pipe Co. In addition to this pipe they have also installed considerable 8 and 10 and 12 in. machine banded fir stave pipe made by the same company. This pipe is made from 1½ × 4 fir staves banded with No. 2 heavy galvanized rod. The lengths range from 10 to 20 ft., and are connected by wood collars made in the same way as the pipe. The entire outer surface is coated with a special preservative preparation consisting of tar and asphaltum. The city of Cottage Grove, Ore., is now installing its water system, consisting of several miles of 4, 6, 8 and 10 in. machine banded fir stave pipe for a maximum head of 200 ft., made by the Olympia factory of the National Wood Pipe Co.

TRADE PUBLICATIONS.

DERAILS.—Hayes Track Appliance Co., Geneva, N. Y. Paper; four circulars, 8 × 10½ ins.; illustrated.

Each sheet shows the number of Hayes derails in use on one railway system, with the places at which they are in use. The number aggregates 2,393 on these four railways.

THE PRODUCTION ENGINEER.—Mr. Hugo Diemer, Commercial Club Bldg., Indianapolis, Ind. Paper; 3½ × 6 ins.; pp. 16.

This explains the relation between a business concern and the so-called Production Engineer, a title which has only recently come into general use.

VERTICAL ENGINES.—B. F. Sturtevant Co., Hyde Park, Mass. Bulletin No. 123. Paper; 6½ × 9 ins.; pp. 7; illustrated.

High speed, automatic vertical engines are described. Special features are a force-feed oiling device inside the crank base and a complete enclosure of all moving parts.

MODERATE VOLTAGE OIL - BREAK SWITCHES.—General Electric Co., Schenectady, N. Y. Bulletin No. 4,425. Paper; 8 × 10½ ins.; pp. 16; illustrated.

These switches are designed to be used with a voltage of 4,500 or under and combine every essential of satisfactory operation with that of low price.

STEEL BALLS FOR BALL MILLS.—Allis-Chalmers Co., Milwaukee, Wis. Paper; 8 × 10½ ins.; pp. 8; illustrated.

The balls are of forged steel and are used in mills for grinding and pulverizing cement, ore, and various other materials. Records of their use in an Australian gold ore plant are given.

ORE SAMPLING MACHINERY.—Allis-Chalmers Co., Milwaukee, Wis. Paper; 8 × 10½ ins.; pp. 54; illustrated.

Completely equipped sampling mills are described, as well as the individual equipment in the way of crushers and rolls, samples of different kinds, small dump cars and steam and electric power plants.

INCANDESCENT LAMPS FOR STEREOPTICONS, PROJECTORS, ETC.—General Electric Co., Schenectady, N. Y. Bulletin No. 4,424. Paper; 8 × 10½ ins.; pp. 4; illustrated.

A simple, steady lamp of from 20 to 100 candle power, for use in headlights, stereopticons, projectors, etc., is described.

WINDMILLS AND ALLIED SUPPLIES.—U. S. Wind Engine & Pump Co., Batavia, Ill. Cloth; 5 × 8 ins.; pp. 266; illustrated.

Halladay and other windmills, steel towers, wood and steel tanks, pump and pump cylinders, water-works fittings and supplies, corn shellers, wood saws and the like are illustrated and described. Useful tables follow.

CRUSHING ROLLS.—Allis-Chalmers Co., Milwaukee, Wis. Paper; 8 × 10½ ins.; pp. 56; illustrated.

This shows a variety of roll crushers for ore, coal, rock, salt, etc. For some materials the rolls have smooth faces, while for others they have teeth or corrugations across the faces. The methods of erecting and operating are described.

CONCRETE BLOCK MACHINES.—P. B. Miles Mfg. Co., Jackson, Mich. Paper; 10 × 9 ins.; pp. 25; illustrated.

This is a set of single sheets tied together, and illustrating the company's machines, the blocks made and some of the buildings in which the blocks are used. There are also a number of letters and testimonials.

MULTIPOLAR DIRECT CURRENT MOTORS AND GENERATORS. — Allis-Chalmers Co., Cincinnati, O. Bulletin No. 1,046. Paper; 8 × 10½ ins.; pp. 27; illustrated.

This supercedes bulletin No. 1,026, and applies to the Bullock type "H" and "HI" machines. A general description is given of the general specifications and tabulated data of the commercial sizes of this type.

TURBINE HOUSE TANK PUMPS.—Tacony Iron Co., 713 Chestnut St., Philadelphia. Paper; 9 × 6 ins.; pp. 14; illustrated.

The pumps described are designed for house tank supply sump pit drainage or other domestic service, and are supplied with either direct or alternating current motors, or with provision for other power.

COAL MINING MACHINERY.—The Ingersoll-Sergeant Drill Co., 11 Broadway, New York City. Paper; 5½ × 3¼ ins.; pp. 12; illustrated.

Coal cutters, boring machines, drills, air compressors and pneumatic displacement pumps are fully described. The work for which each type is best adapted is fully explained.

HOSPITAL FIXTURES.—The J. L. Mott Iron Works, 84 Beekman St., New York City. Paper; 9 × 12 ins.; pp. 131; illustrated.

Everything imaginable in the way of plumbing and related fixtures for hospitals is shown and priced in this handsome catalogue. Plans and interior views of hospitals are given.

ALTERNATING CURRENT SWITCHBOARD.—General Electric Co., Schenectady, N. Y. Bulletin No. 4,423, supercedes No. 4,307. Paper; 8 × 10½ ins.; pp. 16; illustrated.

The panels described in this bulletin are designed to meet a demand for a high grade, but low-priced switchboard for medium and small capacity central stations, of voltage 1,150 or 2,300.

PUMPING MACHINERY AND SUPPLIES.—Weinman Machine Works, Columbus, O. Illustrated folders.

Belt-driven power pumps, tank, boiler feed and vacuum pumps, air compressors, deep well steam and power heads are included. A separate folder shows a view and a vertical section of a deep well steam head and is accompanied by a capacity table.

WINDMILL ENGINES, TANKS, ETC.—The Challenge Co., Batavia, Ill. Paper; 3½ × 6¼ ins.; pp. 18; illustrated.

Several forms of windmills for pumping and power purposes are shown, including a new internal-gear machine, for which special claims are made. Steel towers, wooden and steel tanks, tank heaters, and grinding and sawing machines are among the other specialties included.

REINFORCED CONCRETE CONSTRUCTION.—Clinton Wire Cloth Co., Clinton, Mass. Paper; 6 × 9 ins.; pp. 16; illustrated.

The Baltimore Electric Co.'s power house and 5-ft intake conduits, built of concrete with the Clinton system of steel reinforcement, is described and illustrated. Corrugated concrete piles with similar reinforcement are also described.

REFRIGERATING AND ICE-MAKING MACHINERY.—De La Vergne Machine Co., Foot of East 138th St., New York City. Paper; 4 × 8½ ins.; pp. 6.; illustrated.

A comparison of the different kinds of refrigerating machines is made to show the advantage of the ammonia, double-acting and compression systems. A graphical illustration shows the output of the De La Vergne as compared with other manufacturers.

PORTABLE ROCK CRUSHING PLANTS.—Allis-Chalmers Co., Milwaukee, Wis. Paper; 8 × 10½ ins.; pp. 16; illustrated.

These plants have Gates crushers mounted on wagon beds or flat cars, together with elevating conveyors to deliver the product to bins or cars. The wagon machines may be driven by belting from traction or other engines, but the railway machines (for ballast and other work) have small steam engines mounted on the car.

PROGRESS IN SEWAGE TREATMENT.—No. 2. Merritt & Co., 1022 Ridge Ave., Philadelphia. Paper; 6 × 9 ins.; pp. 8.

Under the heading "Oxidation Essential in Sewage Purification" quotations are inserted and some comments on them and the subject-title given. The last page is headed: "The Merritt Air-Lock System Favors Oxidation," and is used to illustrate and describe a so-called air-lock apparatus for controlling the closing of contact-beds.

GASOLINE MARINE ENGINES.—The Clifton Motor Works, 229-231 East Clifton Ave., Cincinnati, O. Paper; 10¾ × 7¾ ins.; pp. 20; illustrated.

These engines are of 7 HP. to 45 HP., with inlet and exhaust valves operated mechanically, and having the jump-spark type of ignition. For reversing, a bevel gear arrangement is used, the wheels having planed teeth. The engines are illustrated, as well as vessels (including canal boats) equipped with them, and there are a number of testimonials.

VENTILATOR.—Ideal Ventilator Co., 120 Liberty St., New York City. Paper; 4¼ × 6½ ins.; pp. 16; illustrated.

A new ventilator attached to windows of old or new buildings is described. A narrow glass sash, extending the full width of the window, rests with its lower edge on the window cap, and, by forming a small angle with the vertical, inwardly directs the currents of air to the top of the room.

ELECTRIC LIGHT AND POWER.—Two quite different electric light and power systems advertise their product—electric current—in two pamphlets which reached us at the same time. The Portland General Electric Co., of Portland, Ore., reprints in a 23-page, 9 × 12-in. pamphlet a paper describing the company's generating and distributing system, read before the Pacific Coast Engineering Congress of June, 1905, by Mr. F. G. Sykes. The other pamphlet, 6 × 9 ins., is the November issue of the Bulletin of the New York Edison Co., which contains various items speaking for the use of the company's current for all light and power purposes in New York City; the pamphlet is well illustrated. It appears monthly, as does a similar bulletin issued by the Brooklyn Edison Co. Either may be had by applying to the company which gets it out.

MACHINE TOOL CONTROLLERS AND STARTING RHEOSTATS.—The Cutler-Hammer Mfg. Co., Milwaukee, Wis. Paper; 5 × 8 ins.; pp. 2; illustrated.

Five single sheets are furnished, devoted to their compound, reversible, full reverse, and non-reversible machine tool controllers of the drum type. Five other single sheets describe the slate front planetary style. Tables of commercial sizes are given.

DYNAMOS AND MOTORS.—Northern Electrical Co., Madison, Wis. Paper; 7 × 10 ins.; pp. 24; illustrated.

This bulletin relates to spherical frame machines for use in industrial plants. Their construction and special features are described, and the illustrations show them applied to machine tools, elevator hoists, sinking and propeller pumps, foundry rattlers and factory machines, etc.

ELECTRICALLY-DRIVEN AIR-COMPRESSOR GOVERNOR.—General Electric Co., Schenectady, N. Y. Bulletin No. 4,427. Paper; 8 × 10½ ins.; pp. 4; illustrated.

Type MC governor is a compact positive-acting device for use on air-compressors of electric cars. A full description of the action of the controlling levers and switches is given. The electric circuit is broken in a magnetic field to insure against burnt contacts.

SLOW AND MODERATE SPEED BELT-DRIVEN GENERATORS.—General Electric Co., Schenectady, N. Y. Bulletin No. 4,426. Paper; 8 × 10½ ins.; pp. 16. Illustrated.

These are simple and compact generators ranging in capacity between 16 KW. and 150 KW., of various voltages and speeds. The style is designated as CL-B and of the same general type as their CL motor, which has been on the market for some time.

CONTRACTORS' DUMP WAGONS AND CONCRETE SPREADERS.—Contractors' Supply & Equipment Co., Old Colony Building, Chicago, Ill. Paper; 3¼ × 6 ins.; pp. 8; illustrated.

This pamphlet refers to the Briggs dump and grading wagons, concrete spreader and loading hopper for handling crushed stone, sand, gravel, coal, etc. There is also a steel wagon for garbage and night-soil, the cover remaining closed while the wagon is dumped.

PULLEYS AND FRICTION WHEELS.—The Xylotite Product Co., Township St. and Cormany Ave., Cincinnati, O. Paper; 3½ × 6 ins.; pp. 60; illustrated.

These pulleys and wheels are made of xylotite composition pressed to shape by hydraulic power; they have solid webs and are said to give a good grip for the belts. Single, cone and split pulleys are made, as well as wheels for plain and bevel friction gears. Lists of dimensions and prices are given.

WATER METERS.—Hersey Mfg. Co., South Boston, Mass. Paper; 3¼ × 6 ins.; eight thin pamphlets, some with illustrations.

Beginning with April 1 of the current year this company has issued a small pamphlet each month: some devoted to the furtherance of the use of meters and some relating to the Hersey meters. In the former are included extracts from papers read by engineers and in the latter descriptions of special features or adaptations of meters, such as a meter and connections for application to the back of a street sprinkling wagon or to a stand-pipe for supplying such wagons. Of the various classes, meters from ⅝ in. to 12 ins. in size are listed in three of the later catalogues.

RAILWAY CRANES, TRANSFER TABLES AND RAIL-SAWING MACHINES.—The Industrial Works, Bay City, Mich. Cloth; 9½ × 12½ ins.; pp. 56; illustrated.

The greater part of this interesting and handsome publication is devoted to wrecking and construction cranes, up to 100-tons capacity; hand cranes, transfer cranes for freight stations and jib cranes for hoisting and for handling clam-shell buckets, are also included. The transfer tables shown are operated by electricity and by hand power. The rail-sawing machines are large flat cars equipped with saws, drills and the necessary engine and boiler, and are used for cropping off the ends of worn rails and drilling the short rails for splices. A number of these machines are in use, making practically new rails out of old ones. The book is not a catalogue, but is descriptive in character, and one of its interesting features is the number of photographic views showing the powerful cranes engaged in wrecking and bridge erection operations.

DREDGING MACHINERY.—North American Dredging Co., 95 Market St., San Francisco, Cal. Paper; 7 × 5 ins.; pp. 30; illustrated.

The company builds and operates dredges of all kinds, and the book consists principally of views of these dredges and work done by them; the work includes the filling in of tide flats, etc., by hydraulic dredges, and the building of levees by a clam-shell dredge having a 140-ft. boom. Submarine drilling is also a specialty of the company.

FRICTION CLUTCH.—Allis-Chalmers Co., Milwaukee, Wis. Paper; 8 × 10½ ins.; pp. 4; illustrated.

The Reliance Friction Clutch is a self-adjusting attachment for a pulley. It is designed for heavy work and the manufacturers claim many points of superiority for it over other styles, among them being an equal distribution of the strain between the three arms, and durability of the bearing surfaces.

AIR HEATER FUEL ECONOMIZER.—The Green Fuel Economizer Co., Matteawan, N. Y. Paper; 6 × 9 ins.; pp. 8. Illustrated.

An apparatus for utilizing the waste heat of the chimney gases of the steam plant, for heating and drying, is described. It is very similar in construction to the Fuel Economizer for feed-water heating and may be used in conjunction with or separate from it, for laundry purposes.

IRON AND STEEL PRESERVATIVE COMPOUNDS.—The Goheen Manufacturing Co., Canton, O. Paper; 18 × 23 ins.; pp. 2; illustrated.

One sheet is devoted almost entirely to illustrations of various iron constructions where the "Carbonizing Coating" has been used. The other two sheets apply respectively to "Galvanum," the protector of galvanized iron, and oxidized carbon cement, a permanent liquid coating for the inside and outside of the hulls of steel vessels.

CROSBY NEW INDICATOR.—Crosby Steam Gage & Valve Co., New York City. Paper; 4½ × 7¼ ins.; pp. 7; illustrated.

A new departure in the construction of this instrument is described. The compression spring is placed above the cylinder and consequently is removed from the heat. The piston rod connecting with the spring slides through a sleeve, acting as a vertical guide. Any eccentricities in the spring will not increase the friction of the piston, as is the case when the spring is in the cylinder.

OIL INSULATED TRANSFORMERS.—Allis-Chalmers Co. Bulletin No. 1,047. Electrical Department, Cincinnati, O. Paper; 8 × 10½ ins.; pp. 19; illustrated.

This is a general discussion of the comparative merits of various types of oil-cooled transformers. Two general types are mentioned in particular—the oil-filled, self-cooled type, for capacities up to 300 KW., and the oil-filled, water-cooled type, for capacities of 100 KW. or greater. Efficiency and regulation curves are given, also tabulated data with partial specifications for commercial sizes.

HOISTING ENGINES.—C. W. Hunt Co., West New Brighton, N. Y. Paper; 6¼ × 9¼ ins.; pp. 32; illustrated.

An abundance of illustrations, mostly photographic, accompanied by a small amount of text discussion, is used in this booklet to bring out the meritorious features of the steam engines used in Hunt hoisting and coal-handling machinery. Views of complete installations are shown in sufficient number to give a good idea of the manifold arrangements and types of steam driving machinery which the company has developed.

STEAM BOILERS.—The International Boiler Works Co., E. Stroudsburg, Pa. Catalogue C, 1906. Paper; 6 x 9 ins.; pp. 40; illustrated.-

This yearly catalogue contains tabulated specifications for various sizes and description of each style of boiler. The various designs include vertical and horizontal, both water-tube and fire-tube types. Marine boilers, smoke connections and air-receivers also receive some attention. Two pages are devoted to specifications and cuts of small horizontal and vertical engines which this company manufacture.

WIRELESS ELECTRIC RAILWAYS.—The Wireless Railway Co., 618 Chestnut St., Philadelphia, Pa. Paper; 6½ × 4½ ins.; pp. 24; illustrated.

This pamphlet describes the surface contact system of electric propulsion called the Pullen system. A series of closed boxes containing armatures are set between the rails, flush with the street surface, and close enough together so that the shoe carried by the car is in electrical connection with the contact surface of the next succeeding box before the last one is disengaged. There is no danger from an electric shock as each contact plate is alive only when beneath a car.

HORIZONTAL SLAB MILLING MACHINES.—Newton Machine Tool Works, 23d, 24th Vine and Wood Sts., Philadelphia, Pa. Catalogue No. 42. Paper; 6 × 9; pp. 23; illustrated.

Illustrations and descriptions of a later design of the planer type milling machines are given. These machines are of one general design, varying in sizes from 30 ins. to 72 ins., and are built with one wide and one narrow upright, the wide upright taking the strain of the drive. The cross-rail has an inclined face to throw the thrust of the cut on the uprights, to overcome the tendency of chatter and lift, prevalent in the old design of rail. A combined horizontal and vertical spindle milling machine is illustrated.

CENTRIFUGAL PUMPS.—The G. W. Price Pump Co., 523 Market St., San Francisco, Cal. Paper; 6 × 9 ins.; pp. 50; illustrated.

A variety of designs of pumps are shown for pumping water, sand, slimes, etc., and many of the pumps are in use in water supply, irrigation and drainage work. Some are belted, and others directly connected to electric motors, steam engines, gas engines and water-wheels. It is reported that this company first adopted the use of the gas engine for this work, the marine type of engine being used. Numerous special designs are shown, including vertical-shaft pumps, dredging pumps and four-stage pumps for high heads. Tables of dimensions, prices, power, capacity, etc., are given, together with long lists of instances. The company also manufactures a rotary mill for releasing gold from auriferous cement-gravel.

SPEED INDICATORS.—Friedrich Lux, G. M. B. H., Ludwigshafen am Rhein. Paper; two pamphlets; one 5½ × 8¾ ins., pp. 15; one 8¾ × 11 ins., pp. 4; all illustrated.

Speed indicators, revolution counters and frequency tellers involving the principle of resonance are described. A series of flat springs, each of a different vibratory period, arranged in a constantly increasing order between prescribed limits, have an end fastened to a common support. Different speeds of rotary machines have corresponding vibratory periods. By placing the Frahm device on the frame of the machine, or connecting it electrically, if an electric machine is to have its speed measured, the spring, having the same vibratory period as the speed to be measured, would vibrate with its maximum amplitude and indicate the correct speed on the dial of the indicator. When used as a frequency indicator, part of the alternating current is shunted through the coil of a magnet underneath the springs. The spring indicating the correct frequency will vibrate in synchronism with the alternating current. The larger pamphlet gives illustrations and prices of the instruments applied to different uses.

ELECTRIC MACHINES AND APPLIANCES.—General Electric Co., Schenectady, N. Y. Paper, serial, 8 × 10½ ins., and special publications from 3½ × 6 to 8 × 10½ ins.

Some interesting special pamphlets have recently been issued by the General Electric Co., describing new or standard productions. An 84-p. pamphlet on Railway Line Material is among these, which is an illustrated catalogue of trolley wire details (including catenary suspension), rail bonds and insulators. Another is a descriptive monograph on automatic block signals, semaphore type, giving special prominence to the top-post signal introduced by this company, in which the motor is in a case at the top of the post, and the spectacle casting is mounted directly on the gear shaft. An interesting novelty described in a small folder is a "luminous radiator," a device not unlike a gas radiator but having three large incandescent lamps, of special form and design, as heating elements. A paper by P. D. Wagoner on "Mercury Arc Rectifiers" is reprinted in one pamphlet. The serial bulletins of this company are, as before, up-to-date catalogues or monographs on its various electrical machines, instruments and appliances, from lamps and switchboards to derrick hoists and transformers.

GAS PRODUCERS AND GAS AND GASOLINE ENGINES.—The Otto Gas Engine Works, Philadelphia, Pa. Three pamphlets. Paper; 10 × 7½ ins.; pp. 25, 31 and 33; illustrated.

The first pamphlet describes the Otto suction producer, and its operation, with tables of cost of operating engines by producer and other gas, and a number of testimonials. The second describes the Otto gas engine, in vertical and horizontal types, including combined engine and pump units. The sizes range from 3½ to 140 HP. and there is a list of over 50 educational institutions whose mechanical equipment includes these engines. The third pamphlet is similar to the second and shows pumping and portable power plants; it also gives a list of 45 towns using gas engines in pumping stations of over [illegible] gallons daily capacity.

PIPE-THAWING APPARATUS.—Westinghouse Mfg. Co., Pittsburg, Pa. Paper; 3½ × 6 ins.; pp. 12; illustrated.

A light, portable apparatus for thawing frozen water pipes is described. Two outfits are offered, one for heavy service comprising a specially designed choke-coil used in connection with the primaries of a standard transformer; and one for light service, consisting of a transformer adapted for suitable secondary voltage adjustment and connected directly to the primary mains. Tabular data gives the current, voltage and length of time for thawing out different sizes and lengths of pipes.

CIRCUIT-BREAKERS.—Westinghouse Electric & Mfg. Co., Pittsburg, Pa. Circular No. 1,107. Paper; 7 × 10 ins.; pp. 20; illustrated.

The distinctive features of the various types of circuit-breakers are well illustrated and described. One class for alternating or direct currents under 750 volts automatically break the circuit in air between carbon contacts. There are also secondary contacts of copper. The swinging arms are closed and held in this position by toggle locks. The three and four pole circuit-breakers are so arranged that the poles may be closed together and tripped simultaneously. Special under-load and over-load circuit-breakers for use in storage battery work receive considerable attention.

A NEW ELECTRIC RAILWAY MOTOR.—General Electric Co., Schenectady, N. Y. Bulletin No. 4421. Paper; 8 × 10½ ins.; pp. 16; illustrated.

This is the latest standard motor for street railway cars put on the market by the General Electric Co., and among the notable features of its design is the adoption of oil and waste lubrication for the bearings, following standard railway practice. This is a wide departure from the methods of lubrication which have been generally adopted in the earlier days of electric railway work. We are inclined to the opinion that the more complicated methods of lubrication, which are commonly used in stationary work indoors and have theoretical advantages, have been found by long experience to be less satisfactory in the dirt and dust of railway service and to be inferior to the comparatively crude lubrication by oil and waste. It may be mentioned, however, that the latest practice in railway work is the use of grease instead of oil for lubrication, and it is possible that this might give even better results in electric motor work. The motor appears to be designed for heavy and hard service with minimum risk of breakdown. The weight of a double motor equipment, complete with two controllers, is from 6,500 to 7,000 pounds.

THE TWENTIETH CENTURY ELECTRIC LIGHT.—F. M. F. Cazin, 1108 Bloomfield St., Hoboken, N. J. 7 × 10 ins.; pp. 103.

This publication describes an electric incandescent lamp for which is claimed an efficiency approaching one watt per candle power as compared with two or three watts per candle power for the ordinary commercial incandescent lamp now in use. The inventor of the lamp appears to be a man with a grievance against the existing lamp manufacturers, the Patent Office and the technical journals, all of whom he accuses of conspiracy to prevent his inventions being made public and exploited. The book is published we judge partially to air this grievance and partially to bring the merits of the new lamp to the attention of capitalists.

Notwithstanding the inventor's scathing arrangement of the technical press (which he accuses in so many words of conducting its reading matter pages solely in the interest of its advertisers) we are more inclined to offer sympathy than criticism. By his own statement, the inventor and the writer of the book, now nearly 80 years of age, has spent the best part of his years since passing the prime of life and all of his private means, save that required for actual necessities, on the development of his invention; and he finds or imagines he finds, which to him is the same thing, the financial and technical world conspiring to ignore his work and defraud him of his rightful reward. He expresses the desire to "make the acquaintance of some wealthy men who not only know a good thing when they see it but who are willing to combine an extraordinarily profitable business with the patriotic act of standing by an American inventor against thiefs of intellectual property." If Mr. Cazin really has what he claims to have, as to which we express no opinion, we trust he may form the desired acquaintance.

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